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The Church, the Law, and Medicine have for ages been linked together in the thought and speech of men as the "learned professions," the term "learned" having reference more especially to humanistic learning; and the "professional classes" have ever been held to be in some degree apart and in some respects more eminent and more worthy of esteem, if not of reverence, than those of commercial or other even more nearly personal occupations. And, in so far as the members of these three professions have lived up to this ideal standard, it is just that it should be so. That is why the introduction of "commercialism" into the medical profession has always been so strenuously combated by the best elements in that profession.

These three learned professions have each to deal with man from the mental, moral, and physical aspects of his personality. That is why each member of each of them ought to be able conscientiously to repeat the trite observation, *nihil humanum a me alienum puto.* They deal with the material conditions and things external to man, not primarily but only from the viewpoint of their effect on his individuality as a being. The lawyer, perhaps, more than the cleric or the physician, seems to deal at times directly with things external to man's personality—his property; but even so, it is the invasion of his moral right, caused by the infringement of his possessions, rather than any direct regard to the possessions themselves as such, that in the last resort is seen to be the basis of such action.

The purpose of the man of commerce, on the other hand, is merely to supply man with external material things, and that, for the most part, primarily, and not incidentally, with profit to himself; too often, indeed, he seeks to create a want hitherto unfelt by man, in order that he himself shall reap the profit of catering to it.

In this light, then, an utterance of the Rev. C. C. St. Clare, at the opening of the Twelfth Annual School of Instruction for Health Officers in the State of Vermont, deserves special notice. In discussing a paper by Dr. George M. Kober on *Diseases which Menace Public Health and Morals,* he said: "There should be a closer fellowship between all professional men for the betterment of our State. . . . Clergymen, for we are not an unapproachable lot, are average citizens, and I am sure would welcome a closer fellowship with the members of the other professions for the study of the life in the different communities, to the end that higher standards might become established." From his other remarks it may be gathered that the reverend gentleman, for one, is a broad gauge humanist *qui nihil humanum a se alienum putat.* The working cleric—not the mere "preacher" or "priest" as such

—the man whose life is spent in close touch with the lives of his flock, who has intimate acquaintance with their external struggle for existence as well as with their internal struggle with existence, can always be, and often is, an able coadjutor with both the earnest physician and the honorable lawyer.

Theological accord is by no means essential to harmonious and profitable cooperation in that wider field of humanity as a whole, with a separate and particular aspect of which each profession has its special concern. The elevation of the ideal of individual self-fulfilment, by whatever route attained, is the first and essential step in the betterment of the human race as a whole; and there are so many tangential points to the labors of the cleric, the lawyer, and the physician, that their better acquaintance, closer intercourse, and more harmonious cooperation than has been commonly the case in these latter days, are greatly to be desired.

We are far from denying the great power of faith or suggestion on the physiological functioning of the human frame, perfection of which means health, perversion disease. To this effect it is indisputable that whatever good results may be credited to the score of Christian Science and other forms of mental healing—and we are convinced that these are far less numerous or marvellous than is commonly believed—are due. But we would point out that even the undoubted cures are effected, not by *prayer,* as the convention in general seemed to assume, either extemporary or ritual, but by repeated assertion with strong conviction, accompanied by other accessories tending to intensify the verbal suggestion. While such a ritual as that suggested may come within the province of the church as a "consolation of religion," we must protest that as a substantive method of treating the sick in place of the accepted means offered by medical science, it would be a definite form of irregular practice of medicine, and as such should be taken due cognizance of under the medical acts.

The subject of healing by prayer came up at the recent convention of the Protestant Episcopal Church of America. The commercial successes of Christian Science and in a lesser degree of the Emmanuel Movement and other mental healing cults, has led to an urgent demand on the part of some of the clerical members that the church should resume what one of the speakers described as "one of its most precious jewels," viz., "the gift of the healing of the sick."

It is impossible not to recognize in this assumption of a "gift" of healing inherent in the church, a very pregnant danger. Without any desire to enter the arena of theological controversy, we feel constrained to point out that, even on purely theological grounds, the injunction to "heal the sick" as a part of the official duties of the church, was linked with the power to do other things that man in general admits his inability to do. "They shall take up serpents; and if they drink any deadly thing it shall not hurt them; they shall lay hands on the sick and they shall recover." (St. Mark, xvi, 18). It is necessary, therefore, before the ritual exercise of such a "gift" of healing the sick be allowed to encroach on the means thereto bestowed by scientific knowledge on all modern nations, that those who claim it as a mere matter of authority should at least

substantiate their claims under the terms of their own charter. *Fiat experimentum in corpore vili.* Before essaying the exercise upon others of the powers claimed by the substitution of the "gift" for the healing measures most approved at the present day—measures which civilized governments deem so important that practically all license the practitioner only after due examination and proof of capability—the would-be ecclesiastical healer should first be called on to demonstrate in his own person the possession of the "gift" by handling a rattlesnake and drinking a draught of prussic acid. Survival after these tests, clearly justified by the commission on which his claim to the "gift" of healing is based, would undoubtedly convince even the most skeptical that so far as the particular candidate was concerned, he undoubtedly held a key to some, at least, of Hamlet's "more things in heaven and earth ... than are dreamt of in our philosophy," and would concede to him a claim to inhabit a plane above the ordinary and therefore to be exempt from the restraints placed by law upon ordinary mortals.

The dangers of inflammable clothing for children are not adequately grasped by parents, especially in the humbler walks of life. Among the well-to-do who are able to provide nurseries with properly guarded fires, etc., and where children are nearly always under proper supervision, this danger is doubtless small; but among the poor, whose children largely have to look after themselves and who are allowed to play pretty much as they please, it becomes far more formidable. In the week ending Dec. 31, 1910, no less than 35 children were practically roasted alive in London through the instantaneous ignition of their clothing, the fabric known as "flannelette" being particularly inflammable. It is true that open fires are rarely used in America, yet even here kitchen ranges, other than gas ranges, must afford a danger and one particularly accessible to the children of the poorer class, while the use of burning tapers during the Christmas season is probably as common here as there. It would be interesting to learn how many such fatalities occur in this country from like causes, without attention having been attracted to this source of danger. If it should prove that there are few, or hardly any, the question will arise whether that fact is due to the absence of such inflammable material in children's dresses here, or a greater self-reliance due to children in this country more early learning to keep themselves out of danger. It may be that the children in America, through the absence of that supervision which is usual in European countries early acquire a capacity for taking care of themselves; though it must be remembered that children of the poorer classes in England are not more guarded than are most children here. Also, that independence has not prevented a fearful toll of life in Fourth of July celebrations for decades, which is only now being stayed by the interposition of a greater parental and governmental supervision.

Touching the question of child labor, on which we have recently had quite a little to say, the governmental control that confines itself merely to prohibiting all kinds of labor for children under a certain age and educational standing, even if it performs that task with judgment and discretion, is only fulfilling half of the obliga-

tions it has taken upon itself towards rendering the future citizen more efficient by insuring that he shall enter on his life's work adequately equipped with a proper physique. As we have previously pointed out, not all work is unsuited to children, either from its very nature or from force of circumstances. Again, entirely to deprive the family of all sources of income through children, in some cases causes a shortage in the means of supplying those things necessary for the building up of the desired physique.

What would appear to be a very useful and well conceived innovation has recently been set on foot in England, where the future settlement of school children in a career is to be aided by the conjoint action of the Education Committees and the Labor Exchanges constituted under a new act "for the purpose of advising school children and their parents in the choice of suitable employment."

Under this arrangement the Labor Exchanges will register the vacancies of employers and also the applications of school children wishing to be employed, while the Education Committees will undertake the task of assisting the children in the choice of a suitable pursuit. The intimate knowledge of the varying capabilities of the children in the schools which the teaching staff cannot fail to possess will be available to the Education Committees, and it may confidently be hoped that these combined efforts will prevent many lamentable failures and form a powerful factor in maintaining the efficiency of the future citizens at a very high level.

An unwarranted criticism of moving pictures is that recently based on the supposed bad language of the actors whose poses, antics and pantomimes are reproduced in the "flick'ring shadows." It is claimed that certain deaf mutes who as a result of their affliction have become more or less proficient in reading the lips during speech, have observed that the remarks of the moving picture actors, instead of bearing any relation to the action represented, consist of the foulest and most profane ejaculations, offensive alike to good morals and decency. The complaints, so it is stated, have been made especially by young ladies and gentlewomen whose sad affliction of deafness apparently affords them no greater immunity from the embarrassment and annoyance of bad language than those of their sex whose hearing is unaffected.

The affair, however, does not ring entirely true, and there are certain considerations which rather tend to throw some doubt on the general truth of the statements that have appeared. For instance, lip reading or following an individual's speech by watching the labial movements is by no means as easy or as readily acquired as is generally thought. It is true that extended study and long practice will enable a deaf person to attain more or less proficiency in understanding the speech of a person solely by observing the lip movements. But however skillful a deaf person may become in reading the lips of any one person, he or she has to study and become familiar with the personal characteristic of each new individual. While labialization and the physical processes of speech in each individual have a certain fundamental similarity, facial and labial contour so alter the position and movements of the parts brought into action in formulating words, that no two talk exactly alike. Certain letters, ejaculations and common words are expressed in a closely

similar way. But when the language gets away from these simple or ordinary words and becomes more complex with all the variations of pronunciation and facial expression due to varying conceptions of word meanings, each individual develops characteristic methods of word formation which however similar in certain fundamental particulars, show enough difference to make it necessary to learn each person's peculiarities. With the foregoing so definitely established, it must be evident that lip reading is a matter not only of the general study of words but of the special study of individuals. To state it exactly, proficiency requires familiarity with words, and the individual manner of expressing them.

The weakness of the allegation that foul and vulgar language is common to or customarily employed by moving picture actors is apparent. To determine the fact would require first, thorough familiarity with foul and vicious language, a requisite which seems highly improbable in the case of the gentlewomen making the complaint, and, second, more or less familiarity with the mannerisms of the individuals using such language. A deaf person, particularly one so from childhood—and a female—would hardly be apt to know any extended vocabulary of evil and vicious words. To acquire any facility in recognizing them would call for "seeing" them over and over again.

When the improbability of any deaf gentlewoman possessing practical knowledge of evil language is considered, together with the fact that in the case under discussion such language was used by strange individuals whose speech peculiarities had presumably never been studied, the inconsistency of the whole proposition is easily seen. When, going one step farther, the imperfections of the most perfect moving picture is remembered, with the difficulty of observing detail close enough to note the exact movements of the lips, the accusation becomes almost ridiculous. The space we have devoted to the matter may seem out of all proportion to its actual importance. But the growing frequency of such random and meretricious allegations against the most harmless enterprises, makes it almost a bounden duty to offer refutation when common sense and truth supply such conclusive facts as in the present instance. Some deaf woman may have detected a single instance of sudden profanity on the part of some moving picture actor, and from her recital of and comment on her discovery—which at that may have been more supposed than real—somebody conceived the idea that vicious language was common and moving pictures were therefore to be shunned as corrupting to the morals *of the deaf!* On such flimsy grounds are cherished reputations too often jeopardized. If our consideration of the matter will serve ever so little to lead our readers to weigh random accusations in the light of common sense and reason, we shall feel well satisfied.

The reported effect of subway travel on the hearing is another instance of hasty and ignorant assumption. Some physician in discussing the ear and the influences exerted by varying air pressures, may have mentioned the subway and in a general way referred to the possible dangers. Straightway the statement spread broadcast that using the subway caused deafness. Very ingeniously but with little regard to the facts, it has been explained that passing into the subway

with its increased air pressure causes the ear drum to bulge inward; while leaving the subway, on the other hand, allows the drum to return to its proper position. The evil comes, it is claimed, from the catarrhal irritation set up by the alternate bulging and return to normal of the ear drum! To the person who is unfamiliar with the physiology of the ear, all this is most plausible, while as a matter of fact, it is the veriest rot. To begin with, the adjustment of every normal ear drum affords a latitude of motion that precludes any bulging process as described. The anatomic arrangement is such, as every one can ascertain, that the air pressures of the middle ear and the outside atmosphere are perfectly balanced unless the eustachian tube is obstructed. It is extremely doubtful moreover, if the difference between the subway air pressure and that of the surface atmosphere is ever sufficient to affect the ear drum to any appreciable extent, even if the eustachian tube is closed. The whole proposition is based unquestionably on a fallacious conception of the ear and its drum membrane, an erroneous idea of the subway air pressure, and a total lack of knowledge of aural physiology. It would be difficult to secure a more perfect combination for developing misinformation. The fear, therefore, that there is to be any increase of deafness as a result of the development of subways in our large cities may be dismissed as quite groundless.

The real subway peril is not deafness or any other physical ill—directly. To those who have studied the situation at all, as the frightful overcrowding has gone steadily forward, an evil, nameless and indefinable, but none the less fearful has been slowly developing. Intangible yet unmistakable this grim "something" has progressed until today although few realize it, it constitutes the gravest menace confronting the average person of New York. For lack of a better term this "thing" of danger may be called the "temper of the subway crowd." Up to a short time ago, the mental condition of the people using the subway was entirely different. There was a disposition to take the inconveniences and annoyances of overcrowding good naturedly, and to meet presenting conditions with good humor. There was safety in such a psychologic atmosphere for it betokened tolerance and temperate consideration. But a vast change has taken place within a year. It would almost seem that the people were actually more fatigued, they are so much more irritable. Whether this is the result of continued overcrowding or comes from other causes no one can say. Instead of good nature there is a sullen pugnacity that seems always close to the surface, ready to break out at the slightest provocation. Nor is this confined to the classes or individuals who would be most expected to show such characteristics. Ladies and gentlemen bearing every evidence of culture and refinement seem as ready as the roughest and most uncouth to show the spirit of intolerance. Difficult as it is to account for the remarkable change that has taken place in the psychology of subway travellers, no one can come in touch with present conditions without observing or rather feeling the pent-up state of the crowds. They are constantly surcharged and there is a sense that only a spark is needed to produce an explosion. Probably the actual condition could not be better described. Whether it is due to a growing dissatisfaction at the situation, a new or increased antagonism

that the discomforts should remain so long uncorrected, or whether it is just the result of the physical annoyances of overcrowding, is a problem none can solve. But the fact remains that in an incredibly short time one of the most complete and striking changes ever witnessed in the psychology of a large body of people has taken place. With this change, dangers have developed that as stated at the beginning of these remarks, form the real subway peril. Not only does one never know when he enters the subway what altercation or quarrel he may be drawn into, actively or passively, with the most disastrous results, but one never knows what sudden outbursts of individuals may occur. If existing conditions can so profoundly affect people of sound mental balance and cultured temperaments, as they certainly have, how much greater influence must these same conditions exert on the mentally susceptible and unsound? It is only a step sometimes from the sullen pugnacity of an ill-tempered crowd, to the hysterical frenzy of a mob. That such a condition if allowed to continue will lead to a calamity that will leave another blot on our vaunted civilization, is scarcely to be doubted. It is to be hoped therefore that the subway situation may be soon relieved if for no other reason than to keep our people from disgracing themselves by some frightful display of subway temper or mania.

The railroad dissemination of infectious material must receive a great deal more attention than it has, or our sanitarians and sanitary experts will be open to very severe criticism for neglecting such an active factor in the spread of disease. For many years, physicians from time to time have called attention to the fact that the methods employed by the railroads in disposing of train sewage are contrary to every principle of sanitation—or decency. One has only to pause and consider the careless way the most dangerous material in the world is deposited along our railroad tracks to pollute our water courses, or on drying to contaminate our atmosphere, to become thoroughly indignant that the railroads, great and powerful as they are, should be thus allowed to outrage every sense of right and cleanliness. Everyone knows how substantially travel by railroad has grown within the past decade. The increased facilities and comforts have not only led healthy people to travel much more extensively but have also made it possible for the sick and unwell to take long journeys. Consequently there is a large number of sick people constantly using the railroads and the present lack of provision for caring for the discharges of either the healthy or unhealthy means that an enormous amount of contaminating material is spread far and wide. It is indeed a serious problem, and the elaborate measures that are being enforced everywhere to prevent stream pollution, to maintain our thoroughfares as cleanly as possible and to dispose of sewage in ways that rob it of all danger, make it imperative that steps no less stringent should be promptly taken to stop the railroads from jeopardizing the health of communities in the manner we have described. As a significant sign of the times, only recently an edict of the New York State Board of Health went forth that all closets on railroad trains should be locked while passing through the district of the Croton water shed. The wisdom of this is beyond all controversy, but since the dangers that made such precautions necessary or desirable in this one in-

stance are constantly present, precautions no less effective are necessary and desirable all the time.

Certainly the question must come up for settlement in the very near future, and if the railroads will not voluntarily place themselves in harmony with right and propriety by suitably caring for train sewage instead of spreading it to the winds and adding so materially to every community's burden of disease, they should be forced to do their duty by law. Certainly the problem of rates is no more important, for while this, it is true, touches the pocketbook, that of sewage disposal touches the health and every thing pertaining to it. What a reflection it is finally on the morals of our railroad officials that they are willing to go on allowing their trains to scatter filth and disease broadcast when every instinct of decency cries out in protest. The real wonder is that the people who have recognized the relation of the railroads to some of our worst outbreaks of typhoid fever have been willing that an intolerable condition should continue so long.

The constantly increasing opposition to the metric system on the part of "practical" men is what our "scientists" should have expected in their unwise efforts to force the system on those unable to use it. The fact that European peasants continue their old measures in places where only the decimal ones are legal, is being widely published as due to the decimal divisions which render the system invaluable in the laboratory but utterly unfit it for use in the daily affairs of more lowly life where measures must be easily divisible by two or three. As we have repeatedly pointed out, "the scientists" have made a tremendous blunder in trying to force the new system on those who can not use it. The annual or biannual effort to induce Congress to side with the "scientists" seems destined to end in continuous failure for the reason that they are unscientific and take no account of the psychology or needs of common folks. It seems therefore that the international laboratory language of measures shall always be different from the practical local dialects of the people. The effort to force either side to use what it cannot use, might as well be given up as impossible of achievement. Both systems are legal in America and each must be given a "square deal" to establish itself where needed.

The physical decay of men over forty must be more frequently mentioned lest we forget the fact that our physique was evolved for only 35 or 40 years of strenuous use. It was not so long ago that 45 was extreme old age—counting time in the large way of evolution. Lengthening of life has been possible only because civilization has let up the physical strains, so that if we continue them we must expect to break as of old. Athletes stop their efforts merely because they are beaten by younger men, but the non-athletic seem to think that it is necessary to keep up excessive exercise though the tissues simply cannot stand it. There is then no mystery in the large number of damaged hearts now being found and they will continue to increase in number and severity until the medical profession succeeds in impressing the lesson. Let us repeat it over and over again until every man over 40 or 45 realizes that he has lived his allotted time of physical vigor and must ease up the strains to retain his health. There is no reason except abuse why so many men break at 55 or 60. They should be healthy until 70 or 75 and it is our duty to show how.

MEN AND AFFAIRS.

Preventable deaths and disability in this country are still appallingly numerous, —much worse than in Europe. The railroads are congratulating themselves and the country that but few passengers are injured and that we really have the safest systems in the world, yet other investigators tell us that a railroad employee is maimed every six minutes, one killed every two hours and 6.4 percent meet accident yearly. Accidents to miners are dreadfully numerous, over sixteen percent being injured each year, and they are largely preventable. They have been diminished more than a half in Europe during the last thirty years, but the United States leads the list of fatalities. The same dreadful tale comes from every other employment where there are risks. It has been proved over and over again that employers as a rule will not voluntarily go to any expense in adopting safety appliances until it is found more expensive to neglect to provide them. The passenger can collect heavy damages for injuries and therefore he is protected—as a matter of economy, not because the corporation cares a snap for his life,—but the injured employee can whistle for his money unless he can prove negligence or fault of his employer and none of his own. All this is now to be changed for it is at last considered that payment for injuries to workmen is part of the running expenses and must be considered with costs of production. Laws are therefore being passed in Europe, compelling employers to pay injured and disabled workmen full salary for a certain number of years, or a small pension for life or a lump sum.

Universal insurance seems to be imminent, for the employer must take out policies on all employees, if he is not able to pay those who are injured, and in Germany this system is already compulsory. Instead of hampering industry, it seems to be aiding it, for German goods are forging to the front. Of course there must be provision against abuses, and the law can not apply to all employments. If a house servant should slip while sweeping the stairs, it could not now be chargeable to the employer, though in time there will be insurance for everyone. Indeed none of us could afford to keep "help," if we were required to pay their wages for years after they are disabled from any cause—that kind of insurance is really a governmental duty. The point of interest to sanitarians is the fact that there is a growing demand the world over for state insurance against sickness as well as injury. When this time comes it will be cheaper to prevent.

The proposed museum of safety and sanitation should be established in every city at once, for the people must be informed that the present wholesale destruction of usefulness or of life itself, is in fact mostly preventable. It is a matter for state regulation as the individual man seems to glory in taking risks. Miners, for instance, can not be trusted with the keys to their own safety lamps. Railroaders assume risks in spite of rules, though it is often charged that they are expected to do so, as the rules are to protect the company against damage suits. No matter how risky a job may be, an advertisement will bring abundant applicants. Similarly the most deplorable faults of sanitation are endured when they could easily be cured. Nevertheless, when people learn that it is society's

duty to protect them from harm, they will demand compensation if injured by preventable disease. The time is not so far off when it will be possible to collect damages for, say, typhoid fever. It will then be cheaper to prevent, and the museum of sanitation will bring on this preventive era much sooner. Old age pensions are now accepted as a permanent public policy abroad and we might as well prepare ourselves for the time when invalids of all kinds are pensioned—indeed they now need help far more than most old people who have been able to save up for the rainy days. Let us have the museum of sanitation at once to show how we can and must prevent illness and death. People must be saved in spite of their ignorance, and only those permitted to die who through sheer foolishness invite disease, like the anti-vaccinationists.

Popular Literature and Medical Men.—Many physicians find their best means of recreation to be the reading of sensational fiction. Those who possess an imagination sufficiently lively not to require the aid of pictures will find in the *Popular Magazine* an excellent selection of diverting stories, humorous, hair-raising, or tear-compelling. Two large issues appear every month. Among the more successful and distinguished writers of this kind of literature we find two of our colleagues, Dr. Rupert Hughes and Dr. Henry C. Rowland, both of whom are represented in the January issues of the *Popular*.

The main distinction between the *Popular Magazine* and *Ainslee's* seems to lie in the superior social position of the characters in the fiction of the latter. Scenes are laid in gorgeous drawing rooms, on the terraces, or in the magnificent gardens of the country homes of millionaires. As a rule these "smart" stories are very well done. Sometimes the French is somewhat weird, which may be in character, or, perchance, lies at the proofreader's door. The story of "Jhundra" by Beatrix Demarest Lloyd in the January *Ainslee's* treats cleverly of a subconscious second self developed by shock.

Quackery probably works out ultimately to the advantage financially of the medical profession; it is the patient that suffers, for finally he is obliged to seek competent assistance, after squandering his money on methods long since discarded by physicians and kept alive only by the quacks owing to some picturesque property that appeals to the sense of the mysterious. We remember being once considerably perplexed by a travelling phrenologist, who seemed to us to have seized upon our most striking characteristics in marvelous fashion. We were but little over twenty years of age. The "professor," after fumbling through our hair for a few moments delivered himself of something like the following:

You are a young man of unusual intelligence, resembling your mother more than your father; you have a better memory for persons and places than for names and dates; you are fond of the opposite sex and are very attractive to members of it; you have the qualities necessary to become an excellent husband and a kind father; you have extraordinary organizing ability and would make a great general, an able financier, banker, or president of a large corporation; you like music; although clever and daring in planning, your great caution prevents your failure in execution; you are eloquent, although you may not now be aware of it, and strong in debate, able to convince others, but not easily

changing your own opinions which are dictated by your strong common sense.

Here followed some details of our private life, and the phrenologist wound up by prophesying long life and great wealth before its close. The reader will note the cleverness of this talk, which was substantially the same to all subjects. There is hardly a young man in the world—or a middle aged one for that matter—who would not swallow this extraordinary mess of flattery mixed with a few facts true of everybody, without blinking. The details of our life we found afterwards had been elicited from friends. As we had already begun the study of medicine, the fakir was unable to sell us a bottle of his patent tonic, the profits from which were his main source of revenue, but many of the audience invested in the mixture, which was guaranteed to give the energy necessary for success in life.

The speech, which we have summarized, and which is technically known as a "ballyhoo," is the main weapon of all the palmists, fortune tellers, card readers, and spiritualists, who infest the towns. These people are frequently in partnership with the keepers of bucket shops and generally advise prosperous victims to invest in certain stocks. The worst of them, men and women, have acted as procurers for debauched men and have handed over to such young and pretty girl victims, who have innocently come in to learn the future. There is another "ballyhoo" for women and girls, and, much impressed thereby, the foolish female is told she will soon meet near a certain corner an elderly gentleman who will prove to be her good genius if she conducts herself with "sense." Many of the fraternity sell pills or powders, most of them probably inert, but lauded to the skies as tonics and invigorators of magical efficacy. Strange how these gentry get the cash, while the legitimate practitioner is staved off from month to month when he sends the bill that represents so much conscientious and intelligent slavery.

Mrs. Eddy's Return.—We do not think it requires much prophesying ability to foretell that the wraith of Mrs. Eddy will soon appear to a circle of uptown Christian Scientists and hand over to one of them the sceptre she so cleverly wielded in the flesh for half a century. A new legend will be fastened upon a million credulous minds, impervious to reason and common sense, and will reap its harvest in countless helpless children, denied the aid of the most powerful weapons of our profession, the vaccines and antitoxines soon to be marvelously increased in number and value. It is a shame that any intelligent editor should lend his columns to the exploitation of this cruel cult. When will people learn that because a person is rich, it is no sign that he can reason? That the financial success of a cult or a business is no proof of merit? Was the earth flat before Galileo because everybody thought so? Christian Science has no more dupes than had Paracelsus, de Meung, Merlin, Mother Shipton, Mary Pratt, and finally the great American, Benjamin Douglas Perkins, with his metallic tractors, and will likely not live longer than the beliefs inculcated by those worthies.

The *Cosmopolitan* Magazine for February has a sketch of the late Mrs. Eddy and her career which is simply ludicrous in its assumptions and conclusions, from the point of view of theologian, literary scholar, or pure scientist. The *Cosmopol-*

itan is rather fond of anything that tends to discredit the medical profession, directly or indirectly, as is shown by this fulsome article and by the lying "Story of a Deserter" in its January issue, which the New York *Times* riddled so effectually. The general tone of Frederick Dixon's idolatrous history of Mrs. Eddy may be judged by his statement that she and God made a majority. Her well known insane delusion regarding what she called malicious animal magnetism is discreetly ignored.

The New York Hospital, which is about to move from its historic site, in the late '70's was one of the show places of the town and everybody, medical man and layman alike, came to admire the beautiful and modern building, to return home later despairing of ever being able to rival it in convenience and esthetic attraction. Since those days hospital construction has been revolutionized in the direction of cottage and pavilion building to replace the single large house, and hospitals would all be located in the country if it were practicable to get the victims of accident to them without the loss of precious time. Few medical men, however, who have visited the fine old hospital will not feel a pang at the loss of the landmark.

The New York Red Cross Hospital is to receive a bequest of $100,000 on condition that no alcohol, even in tinctures, is to be administered within its walls and that other narcotics are to be reduced to a minimum as to dosage. We do not think there is a tendency anywhere in the profession to abuse narcotics, and we doubt if any patient was ever made into a narcotic habitué in a regular, ethical hospital, although the wording of the will seems to evince the fear of such a possibility on the part of the testator. Alcohol is not indispensable in the treatment of disease, although many physicians of the old school would hate to forego the administration of a good dose of brandy or of a half pint of champagne in certain cases of shock and collapse.

The Physicians' Pocket Reference to the International List of Causes of Death is a useful pamphlet that has lately been mailed to members of the profession by the Department of Commerce, Bureau of the Census, at Washington. It is hoped that study of this list will prevent the recording of such absurd causes of death as "heart failure," "dropsy," "marasmus," and the phrase that has been used to cover so much ignorance and haste, "natural causes." As due stress is not laid upon the matter of statistics in many of our colleges or in the majority of States, there are probably very few practitioners who will not be able to extract a useful hint or two from this excellent little book.

We are not among the number of physicians who impatiently throw into the waste basket the descriptive pamphlets of proprietary medicines with which they are favored, being always alert to seize upon a possibly valuable therapeutic hint. Sometimes our patience is rewarded in unexpected ways, by the discovery of novel aspects of physiology, for instance. A recent brochure assures us that the remedy whose merits it exploits "greatly assists the conjugation of food into tissue." We have known food to be declined under certain circumstances, but the possibility of its conjugation is new to us.

ORIGINAL ARTICLES.

THE PHYSICIAN IN COURT.[1]

BY

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Probably there is no place where the physician receives such slight respect and frequently, such marked disrespect as on the witness stand; nor can it in truth be said that this condition is entirely unmerited, for, as a rule, we physicians have resigned ourselves to the field of probabilities, while in the courts we are transferred into the field of facts and certainties.

The physician in diagnosing and treating his cases, conscientiously must be open to convictions of error both as to the present condition of his patient and to the developments and complications that may arise. It has been the frequent experience of all physicians that at times the unexpected develops.

It is needless for me to elaborate upon this fact because this is a matter of every day occurrence.

The question of "How do you testify, Doctor?" has frequently been put to me and the answer has been, "I testify to my physical findings as facts, I testify to my conclusions based with reasonable certainty upon my physical findings." Such testimony meets the approval of our courts, that is, they desire solely facts and certainties.

The physician in his professional capacity is called upon to testify in two classes of cases, to wit: criminal and civil cases, but the former class is so exclusively handled by expert alienists, chemists and pathologists, that it is extremely rare that the practitioner is called upon to testify in questions of crime.

However, it is the every day experience of most of us to have an accident case, or to be confronted by a case of mental aberration, and it will be largely to these classes of cases, I will direct your attention tonight.

There is absolutely no excuse for the physician shirking his duty to his patient by avoiding the giving of testimony that will aid the jury in arriving at a fair conclusion of his patient's claim or a proper decision of the mental capacity of an alleged incompetent. Because certain corporations have established a system of insinuating and insulting questions for their attorneys to ask, is no proper excuse for the physician to keep away from court when he might be of assistance in securing justice.

While it is true that at times the court seems to place no restriction upon the insults offered to physicians while on the witness stand when being cross-examined by legal representatives of some corporation or the representatives of relatives or friends of the alleged incompetent, and also that the court apparently stands ready to punish the physician for contempt if he endeavors to defend himself, yet it is nevertheless true that this very humiliation that some attorneys attempt to put upon the physician's testifying against them is a means used to prevent the physicians testifying in behalf of their patient.

Let us take a typical accident case and carry it along until its termination. Apart from professional attendance there are certain obligations that the physician is called upon to perform. First of these is his report to the patient's attorney. Such a re-

[1] Read at a regular meeting of the Yorkville Medical Society.

port should contain sufficient data to refresh his own memory before going on the witness stand and also such data as to enable the attorney to properly draw the complaint and furnish the bill of particulars. The form I have adopted has met with satisfaction in all my cases and as it is simple and comprehensive I believe I am justified in advising its use.

The divisions are: Patient's allegations; physical findings; and bill of particulars.

Under the head of patient's allegations the data consists of simply what we would term, the history of the case.

Under the head of physical findings, the data consists of the facts our eyes, ears, touch, smell and even taste may reveal to us; not our conclusions, but the facts that prompt these conclusions.

Under the head of bill of particulars, the data consists of conclusions or diagnosis based upon the patient's allegations and on our physical findings. These conclusions should not only contain a description of the nature of the injury, but also the manner and extent of its effects upon the patient as to its duration, curability or permanency.

Such a report meets all the requirements. It provides the attorney with a guide to the subjective symptoms obtainable from the patient's allegations. It furnishes to you a refreshment of your memory of the objective symptoms obtained from the physical signs and enables you to testify to facts. It gives the attorney such data as he requires in his complaint and bill of particulars.

In a very large percentage of cases the attending physician is called into the field of expert testimony and he must then discriminate very carefully between the subjective or hearsay evidence, and physical facts; and, in so far as is possible, he must exclude all hearsay testimony, and when unable to arrive at a conclusion without the subjective symptoms, he must testify that he is taking the subjective or hearsay evidence into consideration and then it is a question of the ruling of the presiding judge whether the testimony will be admissible or not.

Frequently the subjective symptoms are combined with the physical findings in a question with the addition of the assumption that the subjective symptoms be true, and under these circumstances, we may base our conclusions on all the facts set forth in the question.

Let me cite a recent case which will more clearly illustrate my meaning:

An old lady received a blow on the left side of her head, being struck by the pole of a double team truck. She claimed deafness in the left ear as the result. Upon direct testimony the specialist stated that he had made various tests both with watch and fork, etc., and that he found her to be deaf in the left ear; that he treated the ear for some months and from his observations he could and did state that her deafness was permanent. The cross-examination was as follows:

"Doctor, how do you know she was deaf in the left ear?

Answer. She told me so.

How do you know she wasn't lying? Answer. I don't know."

The result was that that part of his testimony which related to the deafness of the patient was stricken out of the evidence. Later the plaintiff's attorney cleared up the situation by asking the doctor if the physical condition of the plaintiff was a competent producing cause for deafness, and left the fact of the truth or falsity of her deafness for the jury to decide.

However, there are certain conditions where it is absolutely impossible to arrive at a reasonably certain conclusion without the consideration of the subjective or hearsay symptoms in conjunction with the physical manifestations. This is very largely true in the various neuroses following an injury, especially where the lesions are purely functional and vary at different times and circumstances. It is a well established fact that there are no definite diagnostic symptoms of many of the post traumatic neuroses and that in diagnosing these cases we must consider all the manifestations and then frequently take into consideration the subjective symptoms as well. In a large proportion of these cases the patient will inform us that at times she suffers from one ailment and that at other times from a different condition and that there is seldom any constant symptom, while the very fact that the experiences of the patient are varied is to be considered in making our conclusions.

In this class of cases, before the trial of the case, I believe it is strongly advisable that the trial lawyer be informed of this fact, so that he may put the questions to you in a manner that will enable you to testify with reasonable certainty. I frequently direct this method of procedure, to wit:

After the physician has qualified, the counsellor states: "Doctor, the plaintiff has testified, etc., (stating all her subjective symptoms) when you answer my questions I want you to have in your mind and consideration the assumption, that these facts she has testified to are true, and to base and guide your answers upon this assumption."

While the testimony based upon such assumption is not of the weight that it would be if based solely upon physical findings, yet it is the best evidence that can be given, with reasonable certainty under these circumstances and it puts more boldly to the court the consideration of the plaintiff's veracity.

In a recent case where the injury alleged was traumatic neurasthenia, the defendant's expert, unquestionably an able diagnostician, testified that from his examination, he could say that there were no symptoms of neurasthenia present in the claimant at the time of his examination.

Upon cross-examination, he was confronted with a selection of Dana's work which read to the effect: "A great many of the symptoms found in this class (traumatic neurasthenia) are subjective" and again by the selection from the same work: "There is no one diagnostic symptom of neurasthenia."

After being grilled on the stand relative to the fact that the symptoms testified to by the plaintiff were those of neurasthenia his testimony was reduced to the bare fact that he had based his conclusion, not solely upon his physical findings, but also on the fact that he believed the claimant lied to him. In this case, the damages to my mind were excessive and I believe solely so, because the expert had erred in the manner of basing his conclusions and had given the jury the impression that he had deliberately misrepresented the facts to them.

The first questions put to a physician on the witness stand are relative to his qualifications, and in this matter I believe it decidedly unwise to appear boastful of your achievements or position, but rather display moderation and reserve, for the higher you pose, the greater will be your fall, if you fail at any point throughout your ordeal on the witness stand to maintain the

high standing you have set for yourself. I believe the jury give more weight to your demeanor and the knowledge you display on the stand than to any personal claims for professional greatness.

In all probability the next question put to you will be relative to your seeing and attending the patient, and right here let me emphasize that in all cases of accident or injury, examine the whole body and where modesty does not absolutely prevent, strip the patient nude. *Thoroughness of detail is the one salvation of the physician on the witness stand.*

To illustrate this fact I will recall the experience of a very prominent gynecologist residing in the Brooklyn Borough and testifying in the capacity of an expert for the New York City Railway Company. On the direct examination he was decidedly positive and assertive in his statements. The cross-examination was as follows:

"Doctor, you examined this woman in my office, did you not? Answer, Yes.

While she was lying on the floor? Answer. Yes.

She was fully dressed? Answer. Yes.

She caught your hand and struggled against you and cried and squirmed away from you, did she not? Answer. Yes.

Did you consider that a satisfactory examination? Answer. No.

Do you presume, from an unsatisfactory examination, to tell this court and jury what the physical condition of this woman is? Answer. No.

You are not satisfied that you know anything at all about this case, are you Doctor? Answer. No."

On this occasion, I have learned since, that this physician's humiliation was so keen that he now refuses to treat an accident case.

After the patient has stripped, observe him standing, walking, his backward movement, his forward and his side movement, the appearance of his skin, his muscles, and if there be any bony or muscular deformity, get out your steel tape measure and compare it with the opposite side. Never use a linen or paper tape measure, for the fact that these may be stretched, destroys the weight of your testimony. Exhaust every possible means to arrive as near to positive certainty as possible; for instance, in the case of an abortion following an injury, go thoroughly over the glandular system and have a Wasserman test done in your presence or do it yourself to eliminate the question of syphilis, for probably the first cross-question put to you would be, "Doctor, has this plaintiff syphilis?"

I also believe it to be of decided advantage to have some standard medical work that coincides with your method of treatment and upon leaving your office to go to court to take such authority with you. In the case of Myers vs. Holtz, I was bitterly assailed for having used a plaster paris cast in a very severe sprain of the ankle joint with separation of the external ligament, and the defendant produced six physicians who on the witness stand swore upon direct testimony, such treatment as I had used was bad and unscientific. They were forced to retract their statements, however, when confronted by Doctor Bull's Treatise on Surgery and his statement that he and Dr. Von Bergman considered fixation with plaster paris the best treatment in such conditions.

Upon direct examination stick closely to your physical findings. State what you did and observed—avoid what you said or heard except in that your hearing was a

physical sign. You may testify that the patient had the moan of pain; the facial expression of agony, the pallor of shock, the deep lasting groan of labor, but you cannot testify that the patient complained of pain or had pain, for these are subjective symptoms or hearsay testimony.

A good rule to follow is to state where the examination was made, whether the patient at the time of the examination was in bed, on a couch or chair, bleeding, conscious, shocked, the location, the nature of the physical findings, discolorations, swellings, luxations, bony deformities and separations, also what you did and how you did it and when you have gone this far, *stop*.

If the attorney follows the customary course of examination you will then be asked where and how often you saw the patient. In this respect it is most certainly wise to have prepared yourself by reference to your account books as to the dates of your visits, preparatory for such question, in fact, if you use one of the pocket day books, commonly used, it would be wise to slip the book into your pocket so that you can refresh your memory if necessary while in the witness stand.

When giving testimony, avoid as far as possible all technical terms. Use the simplest expressions. When speaking of bones, designate them as bones of the arm, forearm, thigh, leg. Don't say uterus, but instead womb; don't say synovitis, but joint inflammation; don't say subluxation, but loose joint. Don't say atrophae, rather shrunken or wasted; don't say ankylosis, but stiff joint.

Be careful about volunteering any information. No matter how honest and unprejudiced your intentions are, any elaboration or unnecessary information is usually construed as undue interest and even though stricken out of the testimony, it lessens the weight of your evidence with the court and jury. Be careful not to assume the prerogative of the trial lawyer by leading or suggestive statements. Such testimony as the counsel may desire he will bring out in the course of time and if he does not question you relative to all the facts you are aware of, it is wise to conclude that no testimony is needed on the matter. Let your answers be descriptive and comprehensive. An illustration of this will probably convey my meaning.

It was the uniform custom of one of our most successful corporation lawyers to ask upon cross-examination these questions of physicians:

"Doctor, what is antiflexion?"

The careless or unsuspicious physician would answer:

"A bending forward of the uterus."

"Is this a diseased condition, doctor?" Answer. "Yes."

"Sure of that are you?" Answer. "Yes."

Thereupon the attorney would bring out Doctor Alexander Skene's work on Gynecology and have the physician admit that Dr. Skene was a very competent authority on diseases of women. When he had accomplished this fact, he would promptly turn to a marked paragraph and read out of Dr. Skene's work, this clause:

"The normal uterus is bent somewhat forward." And then ask the witness if he agreed with this statement. If the doctor agreed, then would be thundered at him: "If you now believe the normal uterus is bent upon itself, why is it you did not do so before I read to you what Dr. Skene said on the subject?"

By being comprehensive and descriptive I was able to avoid such embarrassment

under a similar circumstance. In answer to his question "What is antiflexion?" I replied, "It is a bending forward, to a pathological extent, of the womb upon its long axis."

Do not take anything for granted, and while your answers should be brief, make them complete so that there are no omissions that offer opportunity for the opposing attorney to humiliate you, by displaying your laxity. Do not be too scientific in your answers. Rather condense your knowledge to simple facts and express them in simple terms.

In this respect, I recall an occasion where the late Dr. George R. Fowler was asked, "what is appendicitis?" The next hour was one of weary torture for the court and jury as this learned surgeon discussed scientifically the causes, pathological changes, termination, etc., of this affliction. The weary lawyers on both sides declined to ask any further questions of the doctor, for which, it can be easily deduced the court and jury were indeed grateful. The doctor who followed Dr. Fowler on the stand was familiar with the requirements of a trial and answering to the same question said: "It is an inflammation of a small blind gut, located in the right groin and attached to the main gut."

When you have passed this part of the testimony which treats solely of physical facts and arrived to where you must state your conclusions, it is necessary that you pause a moment after each question before answering. This is to give opportunity for the opposing attorney to offer objections to the question. If no objection is offered answer the question; if offered do not answer unless the judge overrules the objection. If he sustains the objection, you must be careful not to answer it. If you answer the question in spite of the objection being sustained, you would probably imply an undue interest in the case and are liable to be punished for a contempt of court. Again, do not argue with the court and as far as you are concerned accept the decisions of the presiding judge as final, and no matter how biased and unjust his decisions may appear to you, they are matters of record and subject to the revision of the higher courts.

This does not mean you are to blindly testify, at the direction of the court. Frequently you will be directed to answer the questions, *yes or no,* and it is common trick for an attorney to request the judge to direct you to answer the questions "yes or no," and then put the questions in such form that "yes or no" would not be the proper answer. Let me illustrate.

In the case of Pott's fracture, the attending physician had stated, that, after reduction he had encased the joint and limb in plaster paris. When I was called as an expert the presiding judge admonished me to answer the questions "yes or no"; whereupon the defendant's attorney put this question: "Doctor, will you say it is proper treatment to put a broken bone in plaster paris?" Had I said yes, the next question would be: "Doctor, tell us how you would put the ethmoid bone in plaster paris." Had I said no, then would have been thundered at me, "Ah, so the attending physician did not use the proper treatment in this case?" However, in spite of the presiding judge's threat to send me to jail and the ten minutes' explosion, on his part, of my numerous wicked vicious and malicious traits, I persisted in saying, "I cannot answer this question." When it dawned upon the judge that the question was lacking in completeness, he immediately corrected the

question to, "instead of a broken bone, to a fracture of the character and location of the one from which the plaintiff suffered?" To which I answered "Yes."

Another common question to ask upon cross-examination is this:

"Doctor, when you had finished treatment, the patient was completely cured, was he not? otherwise you would not have discharged him, is that not the fact?" Because the processes of repair have progressed to completeness, in a fair proportion of cases, does not mean cured. True it is that abrasions, lacerations, bruises, certain forms of shock, moderate sprains, some forms of fracture and discolorations are practically cured with no material permanent or appreciable results, but the physician must take into consideration whether or not the completion of the processes of repair have not left a stiff joint, a shortened limb, a weakened muscle or some permanent defect before he goes on record, as saying his patient made a complete recovery.

In a recent case tried in the Supreme Court in Brooklyn, the attending physician on behalf of the defendant Railway Company testified that the boy had made a complete cure of his fractured elbow, and upon cross-examination, had the humiliation of displaying a badly ankylosed and deformed limb and of making measurements which showed an inch and a quarter difference in the circumference of the two elbows.

When testifying to incidents and facts not clear in your mind, always put the addition "to the best of my knowledge and belief" to your answers. An error of memory is no crime and it also enables the jury to give such evidence its proper weight. I was asked, by the presiding judge, on one occasion, to define just what I meant, when I said "belief," and my answer was, "My conviction, based with logical reasoning upon all the circumstances and facts considered." It is better to use this additional provision where there can be a matter of possible doubt. Let me illustrate.

Dr. S. W. C., a thoroughly conscientious practitioner, in the Supreme Court, upon cross-examination, was asked by the railway attorney if any of his family, at any time, had ever had a claim against any railroad or any railway or were ever injured in a railway or railroad accident. His answer was, "no," and upon further cross-examination, he persisted in the assertion that there never had been any such claim or accident. The railway attorney then produced documents which showed that the doctor's wife, 5 years before he had married her, had received a small settlement from a railroad. Evidently his wife had considered the matter of such minor significance that she had never informed her husband of the fact.

You must not lose confidence in yourself because your testimony is met by the opposite side with flat denials of the conditions you have testified to. In a very large percentage of cases, you will be confronted by directly contradicting medical testimony. While there may be an honest difference of opinion upon the part of physicians there can be no honest difference of facts, and, if your facts are precise and thorough, it is an easy matter for the attorneys to locate the truth or falsity of the relative statements.

This was illustrated in a case tried in the latter part of October of this year. On behalf of the plaintiff I testified that among my physical findings there was an approximate difference in the circumference of

both elbows of 1¼ inches. The defendant's physician flatly denied this fact and asserted that both elbows were identical. At my direction the plaintiff's attorney caused the physician to demonstrate the measurements before the jury, with the result that, by this embarrassed physician's own measurements, my statements were verified. The consideration the jury gave to the doctor's testimony was evidenced by their promptly awarding the plaintiff a substantial verdict.

It is quite probable that the court may at some time, appoint you to examine a claimant. In such an event your duty is to solely ascertain facts, impartial to both sides, and, if you decide to give your testimony the proper value, you should report and testify solely to the physical findings. When you testify to conclusions, you are by fact or by inference placed in the light of a partial witness. The one applying to court for such an examination pays your bill for that examination and if you testify at their request will also pay your bill for your appearance in court. These facts will be brought out by the opposing attorney however, in whatsoever light you are placed in, by adhering closely to physical findings or facts, you cannot have the weight of your testimony materially lessened. It is only a repetition of the old axiom: "Facts do not admit of dispute."

When considering the question of mental capabilities we are put into a field where conversation is not considered in the same light, as in cases of personal injury. In the latter it is mere hearsay evidence; in the former it is a representation or expression of the mental concepts and conclusions of the patient, and in so far that it represents these concepts and conclusions, it is in fact or by inference an objective symptom. In fact all conversations with an alleged incompetent are important to a court and jury whether they betray any unsound condition of mind or not, and it is proper that the entire subject of the conversations be detailed to the jury and leave it for their consideration.

If it is possible to do so, I strongly advise the examining physician not to approach the afflicted one in the capacity of a physician. The ability of many paranoics to mask their delusions in the presence of physicians is well recognized and you can frequently avoid their reserve if you represent yourself in another capacity.

Some years ago in a case tried before the sheriff's jury, the demented, living here in Yorkville, had perplexed several physicians employed by her family because of her reserve during their examinations. Learning from her family that her delusion was that of selling vast properties, I approached her in the capacity of a prospective purchaser and shortly she was engaged in figuring the sale of enormous properties, all reserve and suspicion being absent.

It frequently is a matter of marked chagrin that these paranoics during trial, will manifest absolutely no evidence of mental degeneration. The more shrewdly they are questioned the more rational they appear. My experience leads me to conclude that it is a grave mistake for an attorney to assume an antagonistic mien toward a paranoic, when the latter is testifying in his own behalf.

In a case tried several years ago in one of our local courts, the attorney in desperation after two hours of grilling cross-examination of the alleged incompetent turned to me, and said: "What can I do, doctor? Her answers are clear and

logical, the jury believe her and we're licked to a frazzle." My advice was "keep still for five minutes and let the delusion assert itself." Scarce had three minutes of silence elapsed when the demented broke forth with profane filth and accused her young daughters of impossible designs upon her husband and herself.

The element of alimentary intoxication is one that enters into a certain percentage of mental affections and the question of how great is this influence can only be arrived at by the elimination of all the pathological conditions of the alimentary canal. We all have observed the marked improvement in the mental condition of certain of our patients under effective alimentary disinfection and the stimulation of the functions of alimentary digestive glands and the muscular coats. Because of this fact, I believe it decidedly prudent in all cases of alleged insanity to examine the bowel contents and to correct all pathological conditions found present, before placing yourself on record concerning the mental capacity of your patient.

The presence or absence of syphilis may influence your conclusion as to the curability or permanency of dementia, and it is prudent to satisfy yourself on this fact.

The question of confidential communications is one I believe to be of great importance to the practicing physician. The custom of giving information to the representatives of your patient's opponents, without your patient's knowledge or consent, is so very general that I believe it advisable to call your attention to the law on this matter.

Section 834 of the Code of Civil Procedure reads as follows:

"A person duly authorized to practice physics or surgery or a professional or registered nurse, shall not be allowed to disclose any information, which he acquired in attending a patient, in a professional capacity and which was necessary to enable him to act in that capacity, unless where the patient is a child, under the age of sixteen, the information so acquired indicates that the patient has been the victim or subject of a crime, in which case the physician or nurse may be required to testify fully in relation thereto, upon any examination, trial or other proceeding in which the commission of such crime is a subject of inquiry."

I am not competent to go deeply into this matter of confidential communications. Our learned guests may deem it wise to further admonish us on this subject, while reflection awakens us to the fact that the giving of information concerning our patients without their knowledge and consent is in direct conflict with our moral obligations and our Hypocratic oath.

The position of a medical expert is entirely different than that of the attending physician. It is the duty of the expert to give all the light on the case he can impartially to both sides either before or during the trial. It is customary for me when acting in the capacity of an expert to make two copies of my report and if the opposing attorneys desire a copy, to furnish it to them. The reason of this is self-evident, for the very purpose of an expert is to afford the court, attorneys and jury, knowledge, with which to enable them to arrive at justice. By this I must not be understood as saying that the field of a medical expert leads him into a Sherlock Holmes investigation of personal traits, habits and purposes, nor that he demean himself to the capacity of a spy or investigator of the legal merits

of an accident claim, but rather as I have previously emphasized, devote himself to exhaustive thoroughness in making his physical findings.

The question of entering into personalities and coaching the attorney relative to some incident that has occurred where the inference may discredit the weight of another physician's testimony is one that is best avoided. I can say of my own personal knowledge, that many of those physicians, who have lent their assistance to besmirching one of their colleagues, have made no material gain from it. It arouses the personal animosity of the physician testifying, the vindictiveness of the opposing attorneys and frequently it reacts and makes the jury antagonistic to the interests of his employer. When a physician stoops to be a "muck-raker," he loses his value as an expert.

Conservative statements on the part of the physician testifying in behalf of his patient, are always of the greatest weight with a court and jury. The claimant details fully his physical suffering, and a clear recital of the physical findings and reasonably certain conclusions, is all that is necessary for a jury in order to form their logical deductions.

I believe the juries as a rule are jealous of anyone assuming their prerogative and all attempts to pass judgment on the merits of the facts not of the law of a case is resented by them. This is true of the presiding judge as well as of any of the witnesses and it is a matter of common recognition that the judges can but seldom influence the jury in passing judgment on the facts.

When asked to describe the extent of a wound or fracture, do not say "A severe wound," or "Bad fracture." These are facts for the jury to decide. Say rather: "the laceration was located, its shape was ————, its depth was ————, its length was ————, it was a simple or it was an infected wound; it involved the tissue of ————." Say of a fracture; that it was located so far from the joint, the bones were completely or incompletely separated, ———— did or did not penetrate the skin, etc. Do not use exaggerating adjectives. Do not say the pain is extremely excruciating, rather, the pain is of a severe type. Do not say, the patient lay as if he were dead; instead, the patient suffered profound shock or was in a condition of unconsciousness. Do not say, a patient will be very lame, but rather, he will suffer from an altered gait or a shuffling of the foot or feet, or a limitation of motion in a joint. In simple words give the character and nature of the injury and leave it to the jury to decide the extent of the affliction.

I believe before many years have passed, the courts, as against public policy will restrict these attacks of unlimited license made upon physicians testifying in courts.

The demeanor of the physician on the stand, the knowledge he displays, the facts he testifies to, his apparent fairness or interest, his understanding of the physical condition of his patient or client, the thoroughness of detail he had made, are facts for the jury to pass upon. However, these are not usually attacked by the attorneys of our railways and casualty companies, but instead personalities, real or implied, are asked of you in a manner that places you in an almost criminal light. The so-called "dope sheet" is put into the hands of these attorneys and from this infamous record, you are "grilled" with insulting questions. This dope sheet is nothing other

than a record, not founded entirely upon facts but upon possibilities, and inferences, —of anything that you may have done or said or was in any way connected with you. The thoroughness of the dope sheet may be illustrated in the incident I have detailed of Dr. S. W. C., for it was from the "dope sheet" he was questioned relative to his wife's settlement.

It is really a grave state of affairs when the terror of the witness stand interferes with the treatment of unfortunate victims of accidents. It is a well known fact that a great many physicians not only avoid the giving of testimony in their patient's behalf, but also decline to attend these unfortunates because of the terror the physicians entertain, that some unpleasant incident in their lives will be laid bare while they are on the witness stand.

INDICAN FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.

BY

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Of all the urinary tests that have come into the more general use during the past five years, that for indican seems to have taken a firmer hold on the average general practitioner than any other, and has received much prominent mention in the medical literature. The interest in this particular urinary finding is still growing, and rightly so, for undoubtedly the presence of indican in the urine is a clinical factor of no mean importance and is deserving of the consideration of every practitioner of medicine. The test is not difficult and takes but a few moments and for these reasons is strongly urged on those physicians who may not as yet be in the habit of performing this test in their regular routine.

It is generally understood that the presence of more than traces of indican in the urine is caused by the putrefaction of proteid food-stuffs in the intestinal canal, and this is undoubtedly the principal cause of this condition. It must be remembered, however, that the absorption of the products of proteid decomposition anywhere in the body will produce indican in direct ratio to the amount of pus present and the conditions permitting its absorption. For this reason the possibility of the presence of such complications as empyema, bronchiectasis, and other conditions in which there is an extensive pus formation should be considered. This is often the case in tuberculosis; but, too, unfortunately patients under treatment are usually taking altogether too much proteid food with the almost inevitable accompanying indicanuria.

The basic cause for the more or less complex combination of circumstances with which indicanuria is practically invariably found, is believed to be due to three important factors: 1. Rapid and excessive eating of a diet over-rich in proteid. 2. A lack of muscular tone in both the intestinal and abdominal walls. 3. Disturbances in the normal secretory functions of the intestinal glands due, in all probability, to the toxemia caused by the motor insufficiency.

Some investigators have called attention to the frequency with which indicanuria is associated with hypochlorhydria. Simon of Baltimore even suggests that the degree of gastric acidity may be judged by the amount of indican present in the urine. This may

or may not be, probably other factors have more to do with this. It will be not uncommonly noted that patients suffering with hyperchlorhydria often show large amounts of indican. Simon himself reports having found it several times in gastric ulcer, with which condition an excess of acid is practically a constant finding.

Unfortunately, when much was being said and written regarding the clinical value of indicanuria, several prominent clinicians belittled the importance of the test, said that indican was normally present in the average individual and threw cold water upon the enthusiasm of many who believed that they were learning to appreciate something that would be of real help to them in their work. Such statements are not borne out by the extended clinical experience of the majority; and the writer believes that although indican may be present in decidedly appreciable amounts in so-called "normal" urines, it is far from a normal finding and its presence should be an indication for prompt therapeutic action.

It is a rare thing for a dentist to find an absolutely good set of teeth, neither is it common to find perfectly working functions in any individual. The average is decidedly below what we know must be a proper standard; and because of this we cannot surely consider it normal for a person to have dental caries or indigestion. Nor, then, should we be deceived by statements to the effect that indicanuria is so common that it is "normal" and consequently a negligible factor.

Granted that there is a need for the test for indican, how can one best perform it? In order that the general practitioner can be converted to the need for any additional work it must be made plain to him that the work is going to be of real value to him and he must be shown the easiest and simplest way. So many tests for indican have been suggested that one is tempted to believe that there is no satisfactory one. Practically all tests depend upon the fact that the colorless indican—potassium indoxyl sulphonate—can be oxidized into the blue indigo by various agents in the presence of hydrochloric acid. The first oxidizing agent used by Obermayer was ferric chloride and a solution of two *pro mille* of this salt in hydrochloric acid is the commonly used reagent that bears his name. Now, however, other oxidizing agents are superseding ferric chloride, simply because the Obermayer reagent is often found to contain sufficient free chlorine to vitiate the test; for it is well known that chlorine is one of our best bleaching agents and if allowed to decolorize the indigo it would lead to erroneous conclusions.

It may be of value and interest to relate here an incident told to me by my friend Dr. Clifford Mitchell of Chicago. The doctor in his work ran across a specimen of urine showing an excess of indican and laid the remainder of the specimen aside to take to college that afternoon to demonstrate to his students. When the time for the test arrived, the reagents were added and the attention called to the "beautiful blue color" which, strange to say, was entirely lacking. The test was repeated only to corroborate the previous finding. The bottle was then carefully scrutinized and was undoubtedly the specimen which in the morning had showed such an abundance of indican. On returning to his office Doctor Mitchell made still another test and a deep blue color resulted. Evidently the trouble was with the reagents, and investigation showed that the hydrochloric acid used at the college was not chemically pure, al-

though supposedly so. It contained quite a large amount of free chlorine.

This little incident is related here to emphasize a fact which I have since found out was true. From it one should learn that a variation in reagents may vitiate an indican test and that one of the essentials is to have "chlorine free hydrochloric acid." It might be added that if Obermayer's reagent is used it should be made comparatively fresh for the same reason.

Amongst the other oxidizing agents which one may use in the indican test are potassium chlorate, chloride of lime, potassium permanganate, ammonium persulphate, osmic acid, sodium perborate and hydrogen peroxide. I have found the last mentioned reagent to be very satisfactory and practically always use it in my laboratory. It is very convenient, for not only is it used in general office work, but it happens to be used in at least two other laboratory tests and thus reduces the number of reagents, bottles and space required.

My most satisfactory routine is as follows: To five cubic centimeters each of urine and pure hydrochloric acid add two cubic centimeters of chloroform and one or two drops of peroxide of hydrogen. On shaking, the blue color due to the liberated indigo will be seen in the chloroform which settles to the bottom of the tube. Frequently the coloration of the chloroform is very slight, while the supernatant fluid is dark in color. The addition of two or three cubic centimeters of alcohol—70% is perfectly good enough—and slight shaking will dissolve *all* of the indigo in the alcohol-chloroform mixture and give a much more satisfactory test.

Frequently on shaking the mixture the chloroform settles in the form of an emulsion and the blue color is not as easily detected or measured. To obviate this Obermayer suggested that the precipitation of the substances which caused this trouble be accomplished with a solution of lead acetate. After the addition of this reagent and filtration the filtrate is tested as above.

Mitchell in a splendid paper entitled "The Difficulty of the Test for Indican in Urine" (*New England Medical Gazette*, October, 1910) advises the following procedure: To ten c. c. of urine add six drops of "clear" twenty per cent. solution of lead acetate (not sub-acetate, nor basic acetate), mix well and filter. To the filtrate add equal parts of Baker and Adamson's hydrochloric acid of a specific gravity of 1.19. Mix well, warm the mixture to between 105 and 115 deg. F., then add carefully, without shaking, one drop of a weak bleaching powder solution, warm again and add a few drops of chloroform, warm again and so on until two c. c. of the chloroform have been added. Then shake vigorously. A clear blue at the bottom shows a successful test, but many bubbles or a whitish emulsion shows that not enough lead acetate was used. Only an intense blue color is to be regarded as clinically significant.

It must be evident that it is advisable to record the progress of an indicanuria, and for this reason some sort of a quantitative test is advisable. There are several quantitative methods, most of which are altogether too tedious for use in general practice. The oxidation of the indican to indigo in a large amount of urine, say 500 c. c., and its abstraction by chloroform, with subsequent drying and weighing is a test that is quite out of the question.

The use of a standardized decolorizing solution is recommended by Boardman Reed, and for this purpose a solution is used which contains one per cent. of free

chlorine (3.46 gms. of potassium chlorate in 100 c. c. of distilled water). After the test is made one adds the above solution drop by drop, shaking between each addition. The resulting figure is expressed as the number of drops of the bleaching solution that are required to decolorize the indigo. Two drops are supposed to be sufficient to decolorize the indican normally present. In this case, or for that matter any other, it is essential that definite amounts of urine and all of the reagents are used and for convenience I suggested several years ago the use of a specially graduated test-tube (since called an "Indicanmeter") which materially facilitates this. This is an important point—the same amounts must be always used if the tests are to be compared with one another or any standard. For routine use this decolorization test, which is usually called Robin's test, is a good one; and to those who are willing to spend five or six minutes in carrying it out, it is warmly recommended.

The usual method is to roughly gauge the amount of the blue coloration and record it as zero, trace, large trace, excess, etc. In the brief article describing the above tube I referred to the possibility of producing an indican test-scale similar in character to the hemoglobin scales of Tallquist, Niemoller or Hall. Since then two or three color-print scales have been produced, the best of which is incorporated in Dr. F. A. Faught's excellent little book, "Essentials of Laboratory Diagnosis," which the writer here takes the opportunity of recommending very highly.

Folin has called attention to the fact that the color of a fifty per cent. dilution of Fehling's solution (volumetric) is practically the same as that of an indican test where twenty milligrammes were found in 1000 c. c. of urine. Basing this color as a standard a series of dilutions may be made which may serve as an indican color scale. Unfortunately there is a tendency for the copper in the solution to deposit itself on the tubes so that after a few weeks their value is lost. A really satisfactory printed indican test-scale showing the approximate amounts of indican in milligrammes per liter has yet to be made, but will doubtless be published before long.

Occasionally the chloroform after a test is colored red instead of blue. This is usually due to a preponderance of skatol products instead of indol products with a clinical significance practically the same as the blue indican. If the patient has been taking potassium iodide the red color will be due to iodine. It will quickly disappear on adding a drop of a saturated solution of sodium hyposulphite (the ordinary "hypo" of the photographer). Askenstedt of Louisville believes that the red or the blue color prevails in accordance with the temperature of the mixture and for this reason always brings his mixture to a definite temperature before noting end results. Bassler in a recent contribution entitled "Red Indican Urine: its Significance" (*Monthly Cyclopedia and Medical Bulletin*, October, 1910), states that: "It is interesting to observe that while both indicans are found in cases of albuminoid putrefaction in the intestines, urorosein (red indican) is more commonly found where there is putrefaction of vegetable substances, as in the cases of saccharobutyric chronic intestinal putrefaction.

"The blue indican cases usually present themselves clinically showing depression, relaxation, lowered vitality and persistent anemia. The red indican cases, on the other hand, are more usually of the irritative, anxious, highly neurotic and hysterical

types, with good general body and blood conditions and are not so commonly constipated..... It is an almost daily observation with me that when the proper diet for an indican case has been maintained for a while (essentially proteid free) and the output of indican has been lowered, the individual will develop into a urorosein case for which the diet would be essentially proteid in make-up."

An easy associated test which may be quickly made in conjunction with the indican test is that for indolacetic acid, another product of intestinal putrefaction either identical with urorosein or the so-called "red indican," or at least very closely allied to it. So far as my experience goes, both tests may be made on the same specimen without difficulty. Herter suggested that to five cubic centimeters each of urine and HCl one drop of a 1% solution of potassium nitrite be added. If urorosein is present a rose pink coloration will ensue, the depth of the color being dependent on the amount of indolacetic acid present. The indican test may then be continued by the addition of the chloroform, hydrogen peroxide, etc. To save multiplication of reagents the half per cent. solution of sodium nitrite (used in Ehrlich's diazo-reaction) may replace the potassium nitrite solution, two drops being used.

Indolacetic acid may often be present in comparatively large amounts when the test for indican is negative. The two substances are evidently formed independently of one another and either or both may be present in any case. As Bassler suggests in his article (quoted above) there may be a variation in the kind of material that is undergoing decomposition and this be the explanation. At all events both substances are indications for very nearly the same routine treatment.

The examination of a large number of specimens has convinced me that when one finds a urine containing indican in excess, that in all probability there will be quite a definite sequence of associated findings. Without making too positive a statement (for every rule has its exceptions) I believe that indicanuria is commonly associated with the following disturbed relations in the urinary findings: 1. An excessive degree of urinary acidity. 2. A high ammonia index. 3. Diminished output of urea. 4. A frequent lowering of the total solids (in addition to the low urea-index). It will not be my intention to go into the details and explain the philosophy of these findings, save to add the suggestion that the circumstances which favor the production of indican, also favor the production of other acid bodies, as yet unknown, which diminish the normal blood alkalinity and cause complications which are by no means thoroughly appreciated. Hence it would seem that if the most is to be gained from the urine examination, when indican is present in excess, make special note of the other findings suggested above.

The presence of a decided indicanuria is rarely not accompanied by other symptoms. In a few cases the patients are sure that "there is nothing the matter" with them, but more often there is a combination of unpleasant symptoms prominent among which are headache, migraine, malaise and drowsiness, a noticeable diminution in the capacity for work—both mental and physical, chronic constipation and indigestion, nervous irritability, fleeting pains and, often, insomnia. Anemia is very commonly found in these cases, and it is often surprising with what a

bound both the red-count and the hemoglobin will rise when the toxemia is removed and indican disappears. It has been frequently noted that the severe anemias, chlorosis and pernicious anemia, are associated with indicanuria; and considerable help may follow the efforts made to relieve this condition.

The treatment of indicanuria *per se* is no sinecure—it is far more than the simple unloading of the bowels and the removal of the putrefying material therefrom. Indicanuria is a habit, and the system has to be weaned from it.

The first thing to do, of course, is to judiciously use the purge. Dietary regulation with a decrease in the proteid intake (especially the animal proteids) and an increase in the time taken to chew the food. Metchnikoff's bacterial therapy has proved itself of some value. Soured milk is much better than tablets of the germs. Colonic irrigations are splendid and should be carried out daily whenever possible in every case. From one to three quarts of water at 80 to 90 degrees should be allowed to slowly enter and leave the colon as high up as possible. This may be continued daily for a week or longer.

Another very valuable measure is the high oil injection. From two to six ounces of cotton-seed or olive oil may be injected as high up as possible and retained all night. I have found that the addition of one or two per cent. of ichthyol to the oil is an effective addition. This may be repeated once or twice and special attention given toward dislodging any particles of impacted feces at the angles of the colon.

The relief of ptosis of the abdominal walls and viscera is another important essential. In a paper entitled "Indicanuria and Enteroptosis" (*Am. Jour. Physiologic Therapeutics*, May, 1910), the writer called attention to some special work that had been done along this line. Frequently when this is borne in mind persistent and intractable indicanurias disappear altogether, to stay away as long as the ptosis is relieved.

There is a great deal of thorough helpfulness in this indican question and it is believed that further work by the general profession who bear this fact in mind will do much toward simplifying diagnoses in the "complicated cases" and making the treatment more direct and efficient.

It should be added here in closing that preserved urines do not always give good indican tests. For this purpose formalin at least should never be used. Patients using urotropin or hexamethylentetramine and iodine compounds should not take them for several days prior to the test.

72 Madison Street.

GENERAL ANAESTHESIA; SOME INTERESTING CASES AND NEW DEVELOPMENTS.[1]

BY

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Before a body of men such as this it is certainly not necessary to go into the history of anaesthesia. In fact the history is only of value as it shows the development of this branch of science. 1842 gives us the first record of an operation under anaesthesia by Dr. Crawford W. Long of Athens, Ga. Dr. Horace Wells, a dentist of Hartford, Conn., first brought the subject into prominence in 1844 by inhaling gas to have his tooth painlessly extracted. Ether was

[1]Read before the Tri-Professional Medical Society, Oct. 17th, 1910.

introduced by Dr. Morton in 1846 at the suggeston of Dr. Jackson, a chemist, for the extraction of the latter's tooth. In the fall of that year it was tried in surgical work. The following year chloroform was introduced by Dr. Simpson of Edinburgh.

Does it not seem strange that these first three discovered anaesthetics, nitrous-oxide, ether and chloroform, remain today, after almost 70 years of experimentation, the three most used substances for the purpose? Many combinations have been suggested, tried and dropped, but one of the newer substances, ethyl chloride, is of some use as I will show later. One of the combinations, anaesthol, is not without reason still used by some; but as I hinted a moment ago, knowledge of the use of the first three is really sufficient, and all this despite the fact that much, indeed far too much, has been written and too many new means proposed without being tried out.

Anaesthetics have come to take a very important place in every operation and many of us feel that it is within limits more important to know who is the anaesthetist and what the anaesthetic, than who the operator especially in small operations of the more common variety.

Generally speaking, as you know, anaesthetics act alike, that is by producing a paralysis of the cerebral and spinal nerve centers. First comes excitation of the cortical cells, then insensibility with loss of consciousness followed by loss of movement and loss of reflex.

Now for the individual anaesthetics.

Ether:— Ether is chemically the oxide of ethyl i. e., $(C_2 H_5)_2O$ a highly volatile, clear liquid with a pungent odor. It boils at 95 deg. F. and is highly inflammable and explosive. Though this is well known all too often is the Paquelin cautery brought near and thoughtlessness may cause serious trouble. Ether is heavier than air and falls. If illuminating gas is used it should be higher than the ether. Since economy is leading many of the hospitals and some private physicians to use other than Squibb's ether, it will be well to remember the following simple test: Add a little oil of copaiba to the ether which should remain clear; but the presence of water or alcohol which act as impurities will be shown by the formation of an emulsion.

Ether anaesthesia is best divided into the following stages:

1. The stage of excitement, the patient being conscious.

2. Stage of primary anaesthesia—for a moment all is quiet.

The third stage will if anaesthesia is induced with sufficient slowness be absent in well over 90% of all cases, but when present it consists in another stage of excitement, the patient being unconscious. The patient will be unaware of the antics of this stage when the operation is over; and

4. The stage of true anaesthesia, which can be divided into sub-stages as relaxation of extremities, then jaw, then loss of swallowing reflex and corneal reflex, and dilatation of pupils.

Of course if the operation is started before the patient is sufficiently in this stage the third stage will rapidly return.

In administering ether the most important thing to notice is the respiration, second, the color; third, the pulse, which keeps up after the patient has ceased to breathe; and fourth, help judge the depth of anaesthesia by the eye. The corneal reflex is early abolished and the beginning dilatation of

the pupil is an early danger sign especially when accompanied by inability to react to light.

Chloroform:— Chloroform is less inflammable than ether, has a sweetish taste and less unpleasant odor. Chemically it is $CHCl_2$. In using chloroform vaseline should be smeared over the face as it is liable to burn, a danger that is very remote with pure ether.

The stages of anaesthesia are the same as with ether, but the stage of secondary excitement is more apt to be absent or to be shorter. The time of induction is shorter but must be even more carefully brought about as most of the trouble with chloroform comes in the early stages.

In administering chloroform the most important thing to watch is the pulse, second, the color; third respiration, and fourth, judge again the depth of narcosis by the eye reflexes. The corneal reflex is lost much later than with ether and anaesthesia should never go beyond this state, for beginning dilatation of the pupils is much more alarming here than with ether. Whereas with ether the pulse tends to become rapid as the anaesthesia deepens, with chloroform it certainly becomes slower and is oftentimes an index to the depth.

Nitrous Oxide:—Nitrous oxide gas (N_2O) is N and O in chemical union. It is supplied in steel cylinders, being liquid under high pressure. These are heavy and portable with difficulty. Gas requires elaborate apparatus for its administration. To use, fill the gas bag, set all valves so that the patient for the first few breaths takes only pure air and then rapidly switch to gas and with one or two breaths the patient is unconscious, and there is no choking. There is now sterterous breathing and muscular twitching, the conjunctiva becomes insensitive to touch and the eyeball frequently oscillates. The respiration then becomes slower and shallower and cyanosis is present. The pulse must now be watched. The narcosis can be maintained indefinitely. I have myself used this method for 45 minutes, for a difficult amputation, without ill effect. But if desired a gradual change to ether is simply made, the patient remaining anaesthetized. By means of the Tetter apparatus oxygen can be combined with N_2O and an occasional whiff of ether gives relaxation sufficient in most cases for laparotomy. The apparatus is complicated and cumbersome, requiring at least two dress suit cases and the weight is extreme. Of course, N_2O has its chief value as a preliminary to ether.

Ethyl bromide is only mentioned to be condemned. Somnoform, being a secret preparation, I refuse to try it. From what others tell me it is treacherous.

Ethyl Chloride:—Ethyl chloride can be used on an open mask or with a special apparatus or sprayed into the gas bag. Its value is in short operations and as a preliminary to ether. It is a cardiac depressant and during its administration the pulse must be the main guide. I gave this once for 55 minutes for a suprapubic prostatectomy with abdominal phlegmon, patient 79 years of age. It is not quite as safe, pleasant or free from the after effects such as headache and nausea as is nitrous oxide, but it is when carefully used sufficiently safe and its portability is inviting.

A. C. E. and molecular solution have long been discredited. Anaesthol, first made by Dr. Weidig and introduced to the profession in 1903 by Dr. Willy Meyer is

supposed to be a chemical union of 17% ethyl chloride, 36% chloroform and 47% ether. It must be administered just as is chloroform. Its dangers are the same but less in degree, for in action it is chloroform with a little ether added. The pulse is again the most important guide in an anaesthol anaesthesia. Remember when using this drug you are giving chloroform with a little cardiac stimulant added, namely, ether.

Anaesthesia by electricity as well as resuscitation by this means, as so interestingly demonstrated last winter by Dr. Rabinovitch is as yet in the experimental stage, and as such worthy only of passing mention.

Now we have considered the various anaesthetics separately and will return later to them collectively. In the meantime let us consider a few of the special methods and special apparatus and take up a few case reports.

You all know the Bennett apparatus. Gwathney has combined the gas and ether cylinder into one which is less cumbersome but holds too little ether. Gwathney has given us a method of warmed anaesthetics which is very pretty but entirely unnecessary. The operating room is warm and the anaesthetics enter the patient at body temperature normally, after being warmed by the upper air passages. For a laryngectomy I give the anaesthetic directly into the lower end of the larynx. I place my bottle of chloroform which I always use in these cases in a basin of warm water and pass oxygen through the chloroform, thus giving the patient oxygen soaked with warmed chloroform vapor.

In operations about the mouth and jaw I frequently use Crile's modification of the Souchon method. Anaesthesia is induced in the usual manner, then after thorough cocainization of the nares and pharynx, 2 rubber catheters are introduced into the nose and then into the pharynx, the outer ends connected with a Y tube with a rubber tube running from this to the Trendelenburg apparatus which is a metal cone perforated at the sides to admit air and a flannel stretched across the top to receive the anaesthetic. The nasal openings are plugged with cotton around the catheters and the pharynx with gauze. This packing of the pharynx prevents secretions from entering the larynx and causes the patient to breathe through his nose. Dr. Lombard has recently recommended for this purpose various sized tubes to fit into the external nares but as these are glass, breakable and clumsy and make packing of the pharynx impossible I consider them of little value. Dr. Stetten has devised an ingenious tube on the O'Dwyer principle for larynx anaesthesia for nasal and face operations.

Of the various masks for the open method of anaesthesia my own modification of the Esmarch is by far the most serviceable. I have had the Esmarch inhaler made of flexible copper wire, nickel plated instead of using steel. I have omitted the gauze and its holder and use flannel cut the proper size and turned in at the edge with a draw string of thick silk suture material. The cover is put on the wire frame and the draw string tightened, thereby keeping the cover in place. Just before starting the anaesthesia the mask is bent to suit. Because it fits, it is easily held on the face with one finger.

The reports of rectal anaesthesia given even by those who favor it, show too many bowel hemorrhages and other calamities to warrant further trial.

Thoracic surgery has brought the anaesthetist as well as the surgeon face to face with a new difficulty. If the Sauerbruch cabinet is used the anaesthetist sits cramped in an atmosphere of positive pressure amid awful noises and watches the operation through a mirror. His materials and the patient's head are also inside the cabinet. The results on dogs are said to be satisfactory. I have never used this on them, but humans on whom I have performed go into extreme shock. I have seen them anaesthetized by ether, anaesthol and gas oxygen but the results are bad. Personally I have been fortunate enough to escape having a death to my credit, but others have been less fortunate. Death most commonly comes when the patient is removed from the cabinet. If the Auer-Meltzer method is used the anaesthetist has much better control over affairs and though both means are too new to speak with assurance this latter one gives the greater hope. I have tried it frequently on dogs and also humans. After anaesthesia is induced in the usual way, a long rubber catheter is introduced into the larynx and ether or oxygen or the combination forced into the lungs from a bottle controlled by a simple set of valves and worked by a double acting hand pump, not a bellows.

Last year I studied a series of cases that were operated upon in one of our large hospitals, from 1892 to 1910. There were 29,299 cases, with 29 deaths on the table. The ages of the patients varied from 6 to 75 years. Chloroform gave five deaths, anaesthol 5. M-S 4, ACE, 3; ether 3; anaesthol and ether 2. Local 2. Spinal 2; anaesthol and chloroform 1; A C E and ether 1; gas 1. If we rule out the local and spinal which do not interest us here we have one death in every 1,172 cases. But if we exclude those cases which were moribund or died from hemorrhage and were positively not anaesthetic deaths, we have 1 in about every 3,000 which is about the average, when all anaesthetics are combined together and when the anaesthetic is only at times in the hands of an expert. Not one of the deaths from ether was in my opinion a true anaesthetic death. Of the total of 29 deaths I will briefly review eight.

CASE I. Suffering from peritonitis, came to the table blue, cold, and almost pulseless. With the first whiff of gas he gasped, vomited, aspirated and promptly died.

CASE 2. Eucaine locally.

CASE 9. Empyema A C E sudden death.

CASE 20. Plaster cast to be reapplied. Chloroform 1 cc. 2 min. This patient, a young woman of 22 had been in good condition. Death was sudden. A true anaesthetic death if there ever was one.

CASE 23. Ether by a specialist. Hysterectomy for large fibroid. No anaesthesia for one hour before death. Patient died of hemorrhage.

CASE 25. Died of injections of magnesium sulphate into spinal cord.

CASE 28. Died of an air embolus, during resection of lung; chloroform was being used.

CASE 29. Partial pneumomectomy under differential pressure.

These are typical of my entire list.

Now in my closing remarks I should like to add my own impressions gained from almost six years careful study and watching of anaesthesia.

Let me start before the operation; should the patient have morphine? As a general routine I must say an emphatic no, though

I realize fully that in a few selected cases it works wonders. But the rule is as follows: Shallow insufficient respiration, inactive or absent, corneal reflex, contracted inactive pupils and an abnormally slow pulse. All most annoying to the experienced anaesthetist and positively dangerous to the patient when in the hands of the inexperienced. If morphine is used it should be combined with atropine. As to scopalamine morphine I have had no experience but the reports though good sound over enthusiastic. Death may occur.

As to the general preparations for anaesthesia I have purposely not considered them for they are never in the hands of the anaesthetist. An empty stomach is probably the most important factor, and therefore, I do not believe in preceding the anaesthesia with a half pint of water with or without a stomachic. I understand it was tried at Bellevue for a considerable time but without advantage.

The anaesthetist will generally be given the choice of anaesthetics, and therefore should be acquainted with the patient's condition especially the heart, lungs, and kidneys, to help him make his choice.

The best methods for the induction of anaesthesia are 1st, gas, 2nd, ethyl chloride, 3rd, chloroform or anaesthol. Gas is easily the quickest, pleasantest and safest. Gas fatalities do not occur as often as one in 30,000. Of course it is contraindicated in advanced pulmonary conditions and in advanced cardiac trouble especially aortic lesions. Ethyl chloride is more depressing to the heart, less injurious to the lungs and has the advantage of portability.

During operation ether is beyond doubt the safest anaesthetic. It is of course contraindicated in advanced lesions of the lungs or kidneys and in extreme arteriosclerosis.

In operations on the skull and brain oxygen passed through chloroform should be the method of choice as it causes the least increase of intracerebral tension. Chloroform has its field first and foremost in obstetrical work and also where ether is contraindicated; also in operations on the stomach as it is less apt to cause vomiting during or after operation. It is certainly not indicated where there is a cardiac lesion for it is a true cardiac depressant. Of the mixtures, anaesthol is pre-eminent. It is indicated where chloroform is indicated and ether not especially contraindicated. It gives a quiet anaesthesia and gives less cause for vomiting than pure ether and is less irritating to the lungs and kidneys because it is only part ether. But it like chloroform is a strong cardiac depressant, its contra-indications being the same as chloroform. It is less poisonous but still very poisonous.

If during operation severe collapse occurs it is best after discontinuing the anaesthesia to pull the tongue forward and start artificial respiration. Stimulants of most use are camphor oil, camphor ether (unless ether has been the anaesthetic) adrenalin, digalene, strychnine and amyl nitrite. Dilatation of the anal sphincter and cardiac massage may be tried in desperate cases.

As to the post-operative dangers which can at all be ascribed to the anaesthetic we have three: first, albuminuria, rare, and as a rule transitory, most apt to follow ether and accounts for a nephritis being a contra-indication to ether. Second, pneumonia follows both ether and chloroform, the former a little more than the latter. It is as often due to keeping patients in a pool of water during operation, taking them through draughty halls, carelessness in

handling while they perspire when they "come out," as to the anaesthetic itself. Third, delayed chloroform poisoning which may follow chloroform, anaesthetol or any other mixture containing chloroform. This condition, best typified by necrosis of the liver, is often fatal. Whereas we can do something to combat albuminuria and pneumonia, we stand helpless before delayed chloroform poisoning.

The ideal anaesthetic, which has not yet been found will combine the safety of ether with the pleasantness of gas during induction, and chloroform during and after the operation. Until we have such an anaesthetic we cannot make one general rule but use the anaesthetic best suited to the case and we will oftenest find that to be gas-ether.

To be a successful anaesthetist we must above all be interested in anaesthesia, confident of our knowledge to judge the patient and the depth of anaesthesia and always be on the lookout for surprises.

2 W. 86th St., N. Y.

MEMORIAL ADDRESS OF DR. ABRAM BROTHERS.[1]

BY

ROBERT ABRAHAMS, M. D.,

New York.

It is fitting that the East Side Physicians' Association solemnly and lovingly commemorate the death of our late friend and co-worker, Dr. Abram Brothers.

Our lamented colleague was one of the founders of the Association; he worked for its success with his fertile brain and generous heart; he served it as president and remained faithful and loyal to its interest and progress to the last moment of his life.

In this solemn assembly is there one who cannot conjure up his noble form, his pleasant smile, his courteous demeanor, the ring of his voice or the eloquence of his words?

To his sacred memory we dedicate this inadequate In Memoriam containing a brief sketch of the life which was prematurely snatched away by the grim reaper—Death.

Dr. Abram Brothers was born in New York City, Nov. 29, 1861, and died October 13, 1910. His death was due to diabetes.

After graduating from public school, Dr. Brothers entered the College of the City of New York. He graduated in 1881, gaining the title B. S. and winning prizes in Latin and the Sciences.

The same year he matriculated at the New York College of Physicians and Surgeons from which institution he graduated in 1884.

He was the third "honor man," a distinction which earned for him a place on the resident staff of Bellevue Hospital.

As a student of P. and S. he won two prizes for "reports" of the surgical clinics held by Professors Weir and Markoe, and the medical clinic conducted by Prof. Wm. H. Draper, all at the New York Hospital, years 1882-3.

At the end of his two years' service in Bellevue Hospital Dr. Brothers opened an office in the lower section of the city. His success and popularity were instantaneous.

His public career also began at this time. He was appointed to a class of children's diseases in the outdoor department of Bellevue Hospital.

He kept this place for a few years, gaining the confidence of the patients, the

[1] Read before the East Side Physicians' Association of the City of New York, December 1, 1910.

recognition of the authorities and the cheerful approval of his colleagues.

He left Bellevue after years of noteworthy service and joined Dr. A. Jacobi at the College of Physicians and Surgeons.

to his ever increasing private clientele.

One or two years later he turned his attention to gynecology. His first public experience in this new work was when he was appointed assistant to Dr. Herman J.



DR. ABRAM BROTHERS.

A strong bond of friendship and admiration cemented these two men so that in later years Dr. Jacobi referred to Dr. Brothers as "the improved Jacobi."

By this time Brothers' practice grew so large and active that he was compelled to relinquish his favorite clinic and his cherished master and devote his whole time

Boldt in the New York Post Graduate Medical School and Hospital.

As time went on his chief and others in authority, appreciating his labor, made him successively instructor and Adjunct-Professor in Gynecology—the latter title he held at his death.

About this time Dr. Brothers joined the

Beth Israel Hospital as visiting gynecologist. He devoted his time, skill and ability to these two institutions for fifteen years.

In 1900 Dr. Brothers visited all the large and noted clinics of the old world with the object of studying "men and methods."

Dr. Brothers' contributions to medical literature are many and of high and lasting merit. He never wrote for the sake of writing.

In 1896 he won the Jenks prize essay of the Philadelphia College of Physicians. The title of the essay was "Infantile Mortality during Childbirth and its Prevention."

He was also a contributor to Keating's Cyclopedia of Diseases of Children.

While he was engaged in the practice of general medicine Dr. Brothers published thirty or more essays, articles and papers covering a great variety of subjects.

When he adopted gynecology as his life work and became thoroughly imbued with it his pen and his brain yielded masterpieces of gynecological literature.

With a slight effort I was able to collect sixty contributions on diseases of women.

As a writer Dr. Brothers was brilliant. He aimed at accuracy of statement, originality of ideas and elegance of diction.

I well remember hearing the late Dr. St. John Roosa, himself a master of letters, complimenting Dr. Brothers on the fine style of an article of his which appeared in one of the issues of the *"Post-Graduate."*

But his taste for literature did not find expression only in the cold, dry letters of the science of medicine.

His range of knowledge of the literature of his own native tongue and the literatures of foreign languages was far beyond and above the possession of the average medical scholar and student.

He spoke German and French with an admirable fluency, and his linguistic appreciation of the classics is well known to those who had the good fortune of close and intimate association with him.

Dr. Brothers' bent of mind was to a large extent romantic, yea poetic.

At frequent intervals, and as the spirit and occasion moved him, his flights into the realms of poetry were spread and blazoned with the zest and zeal, with the sweetness and light, of a true poetic soul.

Scattered among his friends are many of his poetic gems.

Dr. Brothers' love of music excelled his passion for anything and everything save his art of surgery.

The violin was his favorite instrument and to it he devoted all his spare time until it became his solace and his pleasure and the one thing that gave him quick relief from all the major and minor worries of the day incident to a busy life.

He "practised" whenever he could and, possessed of the true artist's instinct, he never hesitated to pour strains of melody at the slightest request.

His love for the fiddle, as he called his violin, was so great that amidst innumerable daily duties and obligations he found time to become an active member of, and play his part in, a friendly orchestra.

Dr. Brothers was the most peaceable man that ever graced mankind. To him an argument was offensive because of his fear that it might lead to the graver forms of personalities. A fight or a quarrel was a positive torture to his gentle soul and for that reason he shunned with all his might such irritations. But when endurance passed the point of virtue, his manliness rebelled and then woe betide his foe or his adversary.

As a teacher and lecturer our departed friend was almost without a peer. His choice and fluency of language, his unexcelled faculty to impart his knowledge to others, his apt illustrations, and deep logic and learning attracted large numbers of students to his lectures in the New York Post-Graduate Medical School.

Besides his professional and literary achievements, Dr. Abram Brothers was a charming host, a genial companion, a genuine friend. He was blessed with a broad mind and a big, generous heart. He was industrious, painstaking and honorably ambitious, and withal modest to the point of shyness.

His untimely death is a deep and lasting grief to all, for all who knew him loved him.

ACUTE LABYRINTHINE SUPPURATION, WITH REPORT OF A CASE, OPERATION, RECOVERY.[1]

BY

OTTO GLOGAU, M. D., M. U. D. (Vienna),

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New York City.

Although labyrinthine suppuration is a somewhat rare condition, occurring once in 100 cases of otitis media purulenta, the general practitioner ought to be familiar with its cardinal symptoms on account of its danger to life. As it occurs most frequently in chronic middle ear disease, the drum will be partly or totally destroyed. The promontory is usually covered by granulations and polypi. The discharge is malodorous and often contains dirty grey cholesteatomatous débris.

The patient's general condition is seriously affected, giving evidence of fever and meningeal irritation.

The labyrinthine symptoms proper may be divided into: acoustic, static and reflex.

The function of the acoustic nerve may be partly or totally destroyed, evidenced by impairment of hearing or complete deafness as regards spoken words and the tuning forks. There are 4 tuning fork tests which help to establish the diagnosis. In 3 of these tests the tuning fork of medium pitch is employed.

Acoustic.— (1) The sound of the vibration when the fork is placed on the forehead is heard more distinctly in the unaffected ear (Weber's test).

(2) When the fork is placed on the mastoid process of the affected side the sound is perceived for a much shorter time than on the healthy side (Schwabach's test).

(3) Used on the affected side, the sound is heard for a longer time if the fork is placed in front of the ear than if placed on the mastoid process (Rinne's test).

The 4th and most characteristic test is made by using the high pitched fork. Here the sound of the vibrating fork held alongside of the affected ear is heard either very slightly, or not at all.

Static.— Of all the static symptoms I shall only emphasize the fact that the patient, when placed in the ROMBERG position tends to fall towards the unaffected side. He is unable to stand on one foot and cannot walk in a straight line. If he turns himself around he is liable to fall; the same occurs when he is placed on an inclined plane.

[1]Read before the Yorkville Medical Society, November 3rd, 1910.

Reflex.—The most important sign is the to and fro movement of the eyes (nystagmus) in most cases directed towards the healthy side and always combined with pronounced dizziness. The nystagmus may be spontaneous, or brought about artificially by caloric, rotatory, galvanic or other irritation. On injecting hot water into the affected ear, the nystagmus is directed towards the same side, while upon injection of cold water it is directed towards the unaffected side, in this way aggravating the present spontaneous nystagmus. Upon turning the patient around in a revolving chair, starting the revolution backwards from the affected ear, a very decided nystagmus is produced towards the healthy side and this is accompanied by vertigo and vomiting.

All these above mentioned symptoms are present in the irritative stage of the disease, namely when the practitioner is most likely to see the patient. After the disease has advanced, the condition of the patient is so depressed that it would not be safe to subject him to the necessary manipulations to elicit all these symptoms and in some cases it will not be possible to demonstrate some of them because the labyrinth will have been partly destroyed.

History.— About the middle of September, 1908, the writer was called to see a man 44 years old, who had been suffering from a running ear since childhood. He had undergone a mastoid operation on the left (affected) side 3 weeks before. Since 2 days he complained of dizziness and tendency to fall on the right side, vomited and became suddenly deaf. Upon consultation between the otologist who had operated him, a neurologist and an internist, it was decided that he was suffering from a cerebral tumor.

Status Praesens.—Sensorium somewhat clouded. The patient rolls constantly towards the right side. Pronounced nystagmus towards the right side. "Weber" to the right, "Schwabach" shortened. "Rinne" positive with very faint sound perception. High pitched tuning fork not heard. Shouting in the ear heard. Temperature 104 F. Behind the ear open mastoid wound resulting from a simple exenteration of the mastoid cells, the posterior wall of the auditory canal remaining intact. The canal is filled with foul smelling pus. After cleansing a large polypus surrounded by a mass of granulation tissue came into view.

Diagnosis.— Acute labyrinthine suppuration.

Therapy.—Immediate radical mastoid operation was advised, to include opening of the labyrinth if found necessary.

Three days later the writer was again called and found the patient unconscious in convulsions, showing symptoms of meningeal irritation. Twitching of the left facial muscles and violent nystagmus were evident. Another consultant agreed that operation was imperative. At Mt. Sinai Hospital, service Dr. S. Oppenheimer, a radical mastoid operation was performed. Necrotic areas on the labyrinthine wall and facial canal were detected, the labyrinth was opened and drained. Upon opening the canal, the facial nerve was seen to have been destroyed by the disease.

The patient made a splendid recovery and 3 months later was able to follow his usual vocation. Now, two years after the operation, the patient is in perfect health, the left middle ear is dry and the facial paralysis has improved considerably. The foregoing case demonstrates the importance of the early recognition and proper treatment of these cases and shows the grave responsibility of the practitioner when called to attend in case of chronic ear affections.

1184 Lexington Ave.

SURGICAL HINTS.

In fracture of the anatomical neck of the humerus the greater tuberosity moves with the shaft, but this is not the case in fracture of the surgical neck. To ascertain this apply the index finger of one hand to the tuberosity, while rotating the shaft with the other.—*Int. Jour. of Surg.*

REPORT OF FOUR CASES OF CAESAREAN SECTION.

BY

A. J. RONGY, M. D.

Adjunct Gynecologist, Lebanon Hospital; Attending Surgeon Jewish Maternity Hospital.

These cases illustrate the wide application of Caesarean section in the practice of obstetrics. Ten years ago section was practically performed in only those who suffered from absolute mechanical obstruction caused by the various pelvic deformities. Now this operation is being adopted in very many of the other complications we meet during childbirth.

I believe heretofore there has been too great a tendency on the part of the physician to sacrifice the child to avoid a slight additional risk to the mother.

It is very doubtful whether a major obstetrical operation in skilled hands and under proper surroundings enhances the mother's chances for recovery more than high forceps or version. The additional risk that the patient may assume is greatly overbalanced by the lessened morbidity. All of us have witnessed the extensive traumatism that usually follows the delivery of a child by high forceps or a difficult breech extraction. I have seen the parts so mutilated that an attempt at repair was futile.

Practically all the plastic operations on the vaginal vault and uterus are brought about by childbirth. In a large percentage of cases it is caused by indifferent obstetrics.

With asepsis and antisepsis fully developed, and with the present knowledge of the technique of this operation, it is practically safe in non-infected cases. The mortality should not be greater than in other clean abdominal operations.

Two of the patients reported did not have the so-called classical indications for Caesarean section, but the desire on the part of the mother for a living child, which I could not promise to obtain otherwise greatly influenced me to decide upon the abdominal route.

CASE 1. Mrs. S. age 30, married ten years, began to menstruate at 18, regular and painless lasting 3-4 days, had two children 1st 6½ years ago, labor was tedious and prolonged. High forceps was applied, child stillborn, 2nd child was delivered by Caesarean section.

Oct. 17, 1909 patient was admitted to the Jewish Maternity Hospital. She was in active labor on admission. Os was two fingers dilated, cervix was rigid. In the evening of the same day the pains became severe and more frequent. Vaginal examination showed four fingers dilation, rigid cervix, membranes intact, head not engaged. Patient was already 14 hours in labor.

At this stage the membranes were artificially ruptured and a further trial of two hours labor was given. Notwithstanding severe pains, the head refused to engage, and it became very evident that the patient could not deliver herself by the vaginal route, so Caesarean section was performed. A living child weighing 9 lbs. was delivered.

The pelvic measurements were as follows: I. S. 19 cm. I. C. 25 cm. ext. C. 18 c. E. L. & R. oblique 21 cm. Diag. C. 9cm. True conjugate 7½.

Post operative course, 1st week temp., highest 102, lowest 99, pulse ranged between 90-100; 2nd week temp. & pulse were normal, general condition good. Patient was out of bed on the 18th day and discharged from the hospital at the end of three weeks.

CASE 2. Mrs. V. age 37, para 1, was referred to me by Dr. A. Bockar.

Personal history, had rickets during childhood, also tubercular hip joint disease with a resulting permanent ankylosis of the right hip. Menstruated regularly and painlessly 3-4 days at a time.

She was admitted to the Jewish Maternity Hospital March 18, 1910, in the 40th week

[1]Reported before the Lebanon Hospital Alumni Society, Nov. 1, 1910.

of gestation. The pelvic measurements were as follows:

Intra S. 23cm. Inter C. 23 cm. Ext. C. 20 cm. Ext. oblique r. 18 cm. Ext. oblique left 15 cm. diagonal conjugate 5 cm.

She having an absolute contracted pelvis, Naegele type, an elective Caesarean operation was performed with the extraction of a living child weighing 6 lb. 12 oz. The post-operative history presented nothing unusual except some abdominal distention which disappeared under proper treatment. She was discharged at the end of three weeks.

CASE 3. Mrs. K. age 24, para 2, personal and family history negative. Married 2 years. During the 1st labor, patient had severe pains for three days, finally the head slightly engaged and high forceps was attempted, but forceps slipped, child was dead so craniotomy was performed.

Six weeks later she was operated for the repair of the cervix and perineum. She became pregnant again and went into labor Aug. 4, 1910. Her attending physician Dr. I. P. Star realizing that patient had made little progress in 24 hours of active labor asked me to see the patient with him.

Vaginal examination showed flat pelvis, rigid cervix, head at the inlet in spite of severe pains, uterus thinned out. Cervix 2/3 dilated. The patient was transferred to the Jewish Maternity Hospital Aug. 5th about 6 p. m. after a further trial of labor for about 3 hours she made no progress. Forceps was not considered as the head was not engaged. Version in the presence of a thinned out uterus with the amniotic fluid thoroughly drained away was considered a dangerous procedure. The mother was very anxious for a living child so Caesarean section was proposed.

After the consent of the attending physician and family was obtained same was performed and a living child weighing 8 lb. was extracted. Patient was discharged from the hospital on the 18th day.

CASE 4. Mrs. L. age 34, para 1, married 17 years went into labor October 16, 1910. Her physician Dr. H. Levant saw her the same evening. On examination he found a relatively contracted pelvis and the breech presenting. She made very little progress during the next ten hours. The following morning the doctor asked me to see her with him. On examination I found the cervix ⅔ dilated, membranes intact, pelvis relatively contracted.

The pelvic measurements were as follows:

Inter Sp. 25 cm. intral Cristal 26 Ext. Conjugate 20cm. R. & L. oblique 16 Diag. C. 9½ cm.

The mother was extremely anxious for a living child, and especially requested not to endanger the life of the child as she was willing to take all risk. It was evident that the child was fully developed.

In view of the relative contraction of the pelvis, the malposition and large size of the child, and the extreme anxiety of the mother for a living child, Caesarean section was suggested.

The family and the attending physician having concurred the patient was removed to the Jewish Maternity Hospital. Section was performed and a living child weighing 8 pounds, 12 ounces was extracted.

Post-operative course was uneventful until the 10th day when patient developed a pleuro-pneumonia on the right side from which she is now convalescing.

PELLAGRA IN NEW MEXICO, REPORT OF A CASE.[1]

BY

D. H. GALLOWAY, M. D.,
Roswell, N. M.

On March 22nd, 1910, I was called to see a woman 45 years old, average height, but slight in weight, who gave the following history:

She has lived in this part of the country 20 years. Seven years ago in February she developed a dermatitis on the back of both hands which lasted for two or three months, during this time she was, as she expressed it, sick and nervous. This condition of dermatitis recurred every spring, each time getting a little worse, and being a little more prolonged. Last December, four months ago, the same train of symptoms came again, and two months later she called a physician, who told her there was nothing the matter except a little nervous-

[1]Read before the Pecos Valley Medical Society, September 21, 1910.

ness, and he gave her a tonic as he had done yearly for seven years.

When she called me I found the following conditions: she was emaciated, her eyesight was failing, and at the present she cannot read, she feels numb, appetite bad, alternate diarrhea and constipation, nervous and feels queer, there has been no vomiting; there is more or less pain all over, but particularly in the right side over the liver; there was a dermatitis on the backs of both hands, extending several inches above the wrists, and entirely around both wrists, but did not involve the palm; darkly pigmented and exfoliating, leaving the surface smooth, shiny and red; there was inflammation in the mouth. She says that she suddenly becomes more nervous, and as she expresses it, she goes all to pieces; noise is unbearable, she has a burning sensation in the stomach, and when the burning stops there is a sensation of cold.

She says that the pain in her side feels like she was being burned. She has a severe vaginitis which is very distressing.

She is dull mentally, and one can see that it is only with great effort that she can follow a conversation or answer questions.

In December and January she drank lemonade almost continually, it required a number of large pitchers a day to quench her thirst.

Although I had never seen a case of pellagra I suspected this to be one, and after reading all I could find on the subject I was thoroughly convinced of it. She says that she does not eat much corn of any form, although ten years ago she consumed much more of it than at the present.

Having heard the statement made that there might be some relationship between this disease and "blind staggers" in horses, I made some inquiries and found that four horses had died of "blind staggers" in Roswell this month. For some reason she took offence at my diagnosis and treatment, returned to her former physician whose diagnosis of nervousness was less objectionable to her.

Her mental depression went on to insanity, and in three weeks after I saw her she died. So far as I know this is the first case of pellagra reported from New Mexico.

HERNIA OF THE LUNG, WITH REPORT OF A CASE OF SPONTANEOUS HERNIA OF THE RIGHT LUNG.

BY

EDWARD ADAMS, M. D.,

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My only reason for presenting a case of this kind is on account of its rarity, for in reviewing the literature up to date I find only sixty-five cases reported and no case similar to this one.

The causes of hernia of the lung may be classified as (1) traumatism; (2) congenital; (3) spontaneous.

1. May be caused by external wounds or following a fracture.

2. Due to defect in chest wall.

3. Resulting from coughing or following an emphysema or long standing strain.

Occurrence of Hernia: (a) Usually anteriorly at root of neck; (b) on one side; (c) posteriorly.

During the Civil War only three cases of lung hernia were reported; during the Russo-Japan War, of 20,000 wounds of the chest, only five cases of lung hernia were reported.

CASE:—I. S., aged twenty-two, an iron worker by occupation, first came under observation on March 3rd, 1908. His father and mother are alive and well, and there are also two brothers and two sisters in the best of health. Had measles and scarlet fever when a child, otherwise had always been in good health until the present illness which dates from two years ago. At that time he had noticed a small swelling about the size of a small walnut on the right side of the chest near the sternum between the second and third ribs. He noticed this pro-

trusion the evening he came home from work, for during the day had lifted a heavy piece of iron. Did not complain of any pain or difficulty in breathing. Also observed that this protrusion became more marked when he bent over and disappeared when he stood erect.

This continued for about a year when he consulted a physician for the first time. The swelling did not increase in size but it was painful every time he bent forward. Three months later while at work, after lifting some iron, he felt a sudden severe sharp pain in the sternum at the third intercostal space, and then noticed that this swelling was considerably larger. Four months later the pain became so severe that he was compelled to stop working. Had been previously treated at the Hospital for the Ruptured and Crippled, and the swelling was strapped for four months.

Status Praesens:—Man of medium height and build with good development of the muscles of the arm and chest. Conjunctivae are slightly pale. Skin is normal in color and there are no scars, eruptions or oedema. Pulse is 72, of good quality, regular, with no increased arterial tension. No murmurs can be heard. Sleeps well, has no headache or tremors. Reflexes are normal; lips are red, tongue is red and clean, appetite good, bowels regular, no nausea or vomiting. No difficulty or frequency of micturition. Palpation of the abdomen shows the liver, stomach and spleen to be normal. No tumors or movable kidney can be felt. Urine is clear in color, s. p., 1018; no albumin or casts.

Inspection of the chest shows slight supra clavicular depressions on both sides and when patient coughs or bends forward a distinct bulging can be seen at the second intercostal space on the right side near the sternum. This bulging disappears when the patient stands erect.

Palpation:—A distinct impulse can be felt when the patient coughs and this hernia can be easily reduced. It is also spongy to the touch. The skin is freely movable over this swelling. Vocal fremitus is slightly increased.

Percussion gives an absolute resonant note (pulmonary).

Auscultation:—Breathing is slightly exaggerated and vocal resonance is also slightly increased.

Differential diagnosis has to be made from the following conditions:—

(1) Aneurism; (2) empyema; (3) abscess of the lung containing air; (4) hernia of the pectoral muscle; (5) angioma of the chest wall; (6) extra pleural lipoma; (7) cyst of thorax; (8) cold abscess.

X-ray picture is negative showing no deformity of the chest wall, aspiration with needle is negative.

Prognosis is favorable.

Treatment:— Has had this swelling strapped with adhesive plaster, which for a time gave some relief; has also worn a truss. At the present time, December, 1910, this condition is about the same; he complains very little of pain, as he has been doing very light work for the past eighteen months; however, if the pain becomes severe, an operation will be advised.

Through the courtesy of Dr. E. Bauman I have seen a second case of hernia of the right lung following an injury to the chest wall at the second intercostal space near the sternum and in this case the symptoms are nearly identical with those of the case mentioned above.

In reviewing the literature, I have been unable to find any case reported which is similar to the one described above, as in my

case we have to deal with a primary hernia of the lung due to a traumatism without any direct injury to the chest wall.

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TREATMENT.

High Blood-Pressure in Arteriosclerosis.[1]—Rudolph states that when in a case of arterial thickening a raised blood-pressure is detected such a rise may be due to one or more of the following causes: 1. Toxemia; such toxemia being at the same time the direct cause of the arterial disease by directly poisoning the vessel walls. A good example of such a poison is nicotine, which directly raises the blood-pressure, and, according to many authorities, also acts directly upon the vessel wall as a poison. Probably there are very many such toxins manufactured in the alimentary tract or in the tissues of the body. 2. Some toxin which has nothing to do with the associated arteriosclerosis, but is directly raising the pressure. One might theorize that in an arteriosclerotic patient the adrenal tissues might be from time to time overactive, and might thus produce periodic rises in pressure, as might occur in individuals not arteriosclerotic. 3. Compensatory. It is well known that if some vital tissues, such as those in the medulla, be rendered anemic—say, by the pressure of a new growth—the blood-pressure rises enormously, seemingly with the object of forcing blood at all hazards into the part. If such a part of the brain be supplied by a vessel the lumen of which is much narrowed by disease, it is likely that the blood-pressure will rise from the same cause. 4. Simple nervousness. It is very common to find the pressure high from nervousness, and if an arteriosclerotic happens to be also a neurasthenic his pressure may be high from this cause alone. 5. Lastly, the raised pressure may be due to the arterial disease alone, and in this case probably the splanchnic vessels, or the aorta leading to them, are extensively diseased.

[1]R. D. Rudolf, F. R. C. P., *British Med. Jour.*, Nov. 26, 1910.

Treatment of Varicose Ulcers.[1]—Thomas strongly advocates the treatment of varicose ulcers of the leg by a paste of glycerine, gelatin and zinc oxide. The paste is prepared as follows. Two parts of the purest gelatin are dissolved by means of a hot water bath in five parts of water. While the mixture is hot five parts of glycerine and two parts of zinc oxide are energetically stirred in until the whole is cool. In cases complicated by xeroderma, hyperplasia, pruritus, or fœtor, Dr. Thomas adds a quarter of a part of carbolic acid. At room temperature the paste assumes the condition of table gelatin and may be preserved for some time. Before application the paste is liquefied in a hot water bath

[1]B. A. Thomas, M. D., *Univ. of Penn. Med. Bulletin*, Oct., 1910.

and cooled. In the meantime the leg and foot are thoroughly cleansed with soap and water (preferably tincture of green soap), alcohol, mercury bichloride (1 in 2000 to 4000), or carbolic acid (1 in 40). The ulcer is disinfected with peroxide of hydrogen and a solution of mercury bichloride or carbolic acid. The surface is thoroughly dried and the paste is applied over the whole surface from the metatarso-phalangeal articulations to the tubercle of the tibia. A layer of gauze bandage 3 inches wide is then applied, being cut at intervals to avoid excessive overlapping and wrinkles. Another layer of the paste is applied and a second gauze bandage, and so on until three or four layers of bandage have been applied, finishing with the paste. As the paste is rather sticky a layer of shellac may be applied for fastidious patients. A thin layer of non-absorbent cotton answers the same purpose. In many cases the dressing may be left undisturbed for from two to eight weeks, and when removed the ulcer will be found healed. But it is safer to ask the patient to return in two days. If there is then any evidence of discharge at the site of the ulcer, manifested by saturation of the overlying dressing, the dressing must be fenestrated, the ulcer cleansed, and a dusting powder, such as salicylic and boric acid talcum, supplemented by a simple gauze dressing, is applied. The patient should return twice or thrice weekly for renewal of the gauze dressing. Should the paste dressing become loose from subsidence of the swelling of the leg, it must be removed and a fresh one applied. Dr. Thomas has never found it necessary to scarify, curette, or excise the floor or edges of the so-called indolent ulcer, nor to apply a stimulant or caustic of any kind in order to promote healing. The primary indication in the treatment of varicose ulcer is to support and improve the circulation in the part. The paste dressing does this by furnishing a veritable new skin. It is freely pliable and slightly elastic, contracting somewhat after its application. These qualities cannot be ascribed to the ordinary bandage or even to the elastic stocking. A great advantage is that dressings are necessary only at long intervals, and the period of healing is shorter.

THERAPEUTIC NOTES.

The Therapeutic and Symptomatic Treatment of Duodenal Ulcer.[1]— It is essential, says Buchanan that the bowel shoud be kept fairly active, even to the point of slight purgation; and a pill which will act upon the small intestine is desirable. The following is eminently satisfactory:—

℞ Aloin
Ext. casc. sagr.
Ferri sulph. exsic. } aa gr. js.
Ext. nucis vom., gr. ¼.

M. ft. pil. j. Nocte sumendum.

Other similar aperients may be substituted, and where an outlook is kept for hæmorrhage the iron may be eliminated. Saline aperients act more particularly on the colon, but may be used in conjunction with the pill if necessary.

To relieve acidity, and render the contents of the stomach alkaline the following formula has been found more beneficial than any other:—

℞ Bismuthi carb.
Sodii bicarb.
Sodii citratis } aa gr. jss.
Calc. carb.
Aq. ad oz. 1½.

In some cases Buchanan omits the bismuth and substitutes sodium sulphocarbolate or hyposulphite, when there is any special tendency to fermentation. The use of gum-arabic or tragacanth to suspend the bismuth should be at a minimum, and he prefers to leave them out.

Magnesium carbonate has been recommended on the grounds that it is slowly dissociated, and its alkalising power is more prolonged. The writer has ceased to use it, as it soon gives rise to colicky pains, and causes considerable irritation of the lower colon and rectum, with tenesmus when taken regularly.

The alkaline mixture should be administered one and a half hours after a meal, when HCl is at a maximum and requires neutralisation. The use of large doses of sodium carbonate at this time is not so satisfactory, as it is rapidly dissociated,

[1] R. J. M. Buchanan, M. D., F. R. C. P., *Med. Press and Circular*, Dec. 7, 1910.

with sudden evolution of gas. The addition of the other carbonates seems to prevent this.

An excellent preparation to counteract acidity and neutralise the acid is hydrated oxide of magnesia, in doses of half to two drachms of the hydrate suspended in distilled water. It is of particular value in that it acts without the evolution of gas, such as occurs when carbonates are used, and which gives rise to painful distension. It dose not cause intestinal irritation.

In place of pure warm water, a natural alkaline water, *e. g.*, Vichy, may be substituted through the day. Buchanan has found the Grande Grille or Celestin most satisfactory, but they should be obtained fresh, as this water has the failing of soon becoming "corked," unless obtained in the newly "capped" bottles.

For the relief of pain it is undesirable to resort to any preparation of opium, as it tends to produce constipation, and gives a false impression of the natural progress of events. There is nothing so comforting as a hot bath for the relief of pain; its effect is rapid and lasting, at the same time removing the sense of chill and shock that so often accompanies the attacks. Cold bathing should be avoided.

Referred pains are relieved by counter irritation: a home-made mustard leaf, in my opinion, is much the best. Counter irritation is most valuable where adhesive inflammation is suspected. Buchanan points out here that, when moving about, *strict precaution should be taken against exposure to cold: such patients are very sensitive to cold, it always aggravates the condition, and any marked exposure may determine a recurrence of the condition when to all intents it has been pronounced cured. Warm clothing is an essential, and the feet and hands should be well protected.* Anxiety and any exhausting occupation should be avoided and guarded against after convalescence is established.

The writer also mentioned the value of physical rest for pain: on assuming the recumbent posture sleep often follows, and on awakening pain has all gone, especially in cases with adhesions.

Ethyl Chloride for Removing Warts.—Dr. Budinger (*La Clinique*, quoted by *L'Union Pharmaceutique*) recommends ethyl chloride for the removal of warts. A jet of the liquid is directed upon the wart for one minute and the operation is repeated every two days as long as necessary. A part of the wart thus treated falls off, while the remainder shrivels up and gradually disappears, leaving a red spot.

Superficial warts disappear readily under this treatment; with deeper ones the outer portion must be excised before applying the ethyl chloride.

Magnesium Sulphate for Inflammation.[1]—Magnesium sulphate solution, in the form of moist compresses, has been found to be an excellent local application in osteitis, acute rheumatism and other superficial inflammatory affections. A saturated solution of the salt is prepared, and in this are immersed fifteen to twenty layers of ordinary gauze. They are laid on the inflamed surface and covered with oiled silk or waxed paper. The compress must be kept moist during the time of its application, and the inflamed parts must not be washed during the treatment. Lucker, who describes the method in *l'Union Pharmaceutique*, states that the pain subsides at once, and the temperature quickly falls, becoming normal on the second day.

HYGIENE AND DIETETICS.

The Diet Before Operations Under General Anesthesia.[2]—In preparing patients for an anæsthetic they are frequently given an unsuitable *kind* of food for the last meal. Thus healthy patients are sometimes made to swallow some concentrated meat essence at 6 o'clock a. m. This might be possible at lunch time, but the stomach is not accustomed to this kind of food at the earlier hour, and it will certainly resent it on a day of such anxiety. Besides, why should it be concentrated? A little extra water in the stomach can do no harm. If a patient be starved all night, and given nothing whatever by the mouth in the morning, he can still bring up fluid which would be at least as likely to choke him as the extra water.

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[1] *National Druggist*, Aug., 1910.

[2] R. W. Collum, M. R. C. S., *Brit. Med. Jour.*, Oct. 29, 1910.

On the other hand, the amount of straining required to bring up this thick viscid mucus is greatly in excess of that required to get rid of the more liquid substance, and the discomfort is increased accordingly. Contrary to the usual belief, after ether there is generally less discomfort than after chloroform. This is partly explained by the fact that the secretion in the stomach is more copious and liquid when ether is employed. So the writer has gradually been converted to the opinion that the want of food, and particularly of fluids, is an important factor in causing the disagreeable after-effects which are usually falsely ascribed solely to the anæsthetic.

It should further be remembered that the stomach develops a habit of expecting, and demanding in no uncertain manner, a meal at regular definite times; and that, if it be disappointed, it will cause its owner to suffer if he takes an anæsthetic. Hence it is important that the usual meal-times should never be altered immediately before an operation. The quantity of food allowed, and to some extent the actual kind of the food, should be carefully regulated.

Supposing an operation (in a healthy subject) is to be performed at 9 a. m. the patient should be left asleep, unless he awakes of his own accord, until at any rate 7.30, when he may be given his enema. Then, if he be accustomed to breakfast at about 8 o'clock, he may have a thin slice of bread-and-butter or a small piece of toast, with as much tea to drink as he desires.

If the operation be at 10 or 11 he may have a similar breakfast, but with, say, two thin slices of bread-and-butter, if he wishes or a somewhat larger piece of toast.

If the operation be arranged for 12 or 1 he may be given an ordinary light breakfast at the usual time—meat, however, being avoided. A glass of water might, in this case, be taken with advantage at about 11 o'clock.

For an operation at 2 or 3 o'clock the ordinary breakfast should be taken at the usual time, and a cup of hot clear soup or beef-tea at 1 o'clock, with a little water to drink.

This same arrangement is suitable for an operation at 4, except that a little toast, bread, or biscuit may be given with the soup.

If 5 be the hour, the breakfast and lunch should remain the same, but in addition a cup of tea may be taken at (or a little before) 4 o'clock.

If 6 be chosen, the patient may have his ordinary breakfast, and then a light luncheon, consisting of fish or poultry, at about 1 o'clock, followed by tea with bread-and-butter at 4 o'clock.

Finally, a patient who is to be operated upon at 7 may partake of his usual breakfast, lunch, and tea, simply avoiding currant cake or anything rich at tea. No fruit of any kind should ever be taken on the day of the operation.

The Influence of Water-Drinking on the Bodily Metabolism.[1]— Fowler and Hawk of the laboratory of physiological chemistry of the University of Illinois report the results of an exhaustive series of experiments.

The subject was a man twenty-two years of age and weighing, at the beginning of the experiment, about seventy-one kilograms. He was placed on a uniform diet, and all urine and feces collected in twenty-four hour periods and analyzed. The experiment consisted of three parts, *a preliminary period* of six days during which time the subject was brought into "nitrogen equilibrium." During this period nine hundred cubic centimeters of water were daily ingested, three hundred cubic centimeters of this amount being taken with meals. The second period or *"water" period* was five days in length, and during each of these days one thousand cubic centimeters of water above that already mentioned were taken at each meal. The *third period* was eight days in length, and during this period the amount of water ingested was the same per day as in the preliminary period. The main conclusions follow:

(1) An increase in body weight, aggregating two pounds in five days.

(2) An increased excretion of urinary nitrogen, the excess nitrogen being mainly in the form of urea, ammonia and creatin.

(3) A decreased excretion of creatin and the coincident appearance of creatin in the urine. The decreased creatinin output is

[1] *Physician and Surgeon.*

believed to indicate that the copious water-drinking has stimulated protein catabolism. The appearance of creatin is considered evidence that the water has caused a *partial* muscular disintegration resulting in the release of creatin, but not profound enough to yield the total nitrogen content of the muscle. The output of creatin is, therefore, out of all proportion to the increase in the excretion of total nitrogen.

(4) An increased output of ammonia which is interrupted as indicating an increased output of gastric juice.

(5) A decreased excretion of feces and fecal nitrogen, the decrease in the excretion of fecal nitrogen being of sufficient magnitude to secure a lowered excretion of both the bacterial and the non-bacterial nitrogen.

(6) A decrease in the quantity of bacteria excreted daily.

(7) An increase in the percentage of total nitrogen appearing as bacterial nitrogen.

(8) A lower creatinin coefficient.

(9) A more economical utilization of the protein constituents of the diet.

(10) The general conclusion to be reached as the result of this experiment is to the effect that the drinking of a large amount of water with meals was attended by many desirable and by no undesirable features.

Fruit Cures.[1]—At the recent Congress of Physicotherapy, Dr. Linossier, of Vichy, read an interesting paper on fruit cures. He did not share the enthusiasm of certain partisans of this method, but, on the other hand, he believed that it did not deserve to be treated with indifference, as it is capable of rendering good service in a large number of affections. The grape cure, for instance, is recommended in certain forms of dyspepsia, in constipation, chronic diarrhœa, congestion of the liver, infectious icterus, abdominal plethora, gout, gravel, and certain diseases of the skin of arthritic origin. The strawberry cure has been employed with benefit in gout and rheumatism. Lemons also are useful in some forms of rheumatism; however, they are counter-indicated in dyspepsia with an excess of HCl on account of their acidity.

In certain countries there exist special establishments for the fruit treatment, but in France they are not necessary, as in three-fourths of the territory it can be organized at home. Every physician, says Dr. Linossier, should employ the fruit treatment, as it is without danger, and withal agreeable.

The agents may not only be grapes, strawberries, lemons, but all sweet fruits —oranges, apples, pears, raspberries, etc.

In what way does fruit act? The mechanism is rather complex. In the first place, the fruits, although acid, render the blood alkaline, and their use constitutes an alkaline treatment. This paradoxical action arises from the fact that the tartrates, citrates, and malates of potassium, to which the fruit owes its acidity, are decomposed in the organism and transformed into alkaline carbonate of potash. In what does the alkaline cure by fruits differ from that by carbonate of soda or mineral water?

First, because the mechanism of the alkalization is not the same. Bicarbonate of soda, when ingested, provokes an abundant secretion of hydrochloric acid in the stomach. This acid comes from the decomposition of chloride of sodium in the blood, and it is by the extraction of this acid that the blood is rendered alkaline. In the case of fruits, the salts penetrate into the blood, are consumed, and transformed into carbonate of potash.

Secondly, the alkaline metal in mineral water is sodium, in the fruit potassium; as this latter fixes itself particularly on the cells of the organism and the former in the humours, it may be supposed that fruit renders alkaline the cells and mineral water the interstitial liquids.

The alkaline action of fruit is more energetic than commonly believed. Dr. Linossier calculates that a pound of strawberries equals one drachm of bicarbonate of soda, a pound of grapes, half a drachm, and the same amount of lemons, 50 grains.

Fruit is further diuretic probably by its sugar and salts of potash; it acts also as a laxative.

Fruits are excellent agents for remineralizing the organism. Their ashes contain in abundance, with the exception of chloride of sodium, all the elements of hu-

[1] *Med. Press and Circular*, Aug. 24, 1910.

man ashes. They contain notably a great deal of iron and manganese, a metal indispensable for the function of the oxydases, they are rich in potassium, constituting, according to Traube, a cardiac tonic. All these substances exist in a colloidal state in the fruit, which possesses properties different to those of the ordinary mineral substances. By the absence of chloride of sodium, fruits are important agents of dechloridation; they increase the excretion of the chlorides.

According to the nature of the cure, different influences can be produced on nutrition. If fruit is the only food taken, an important reduction of nitrogen is realized which is very useful in the different forms of arthritism. If the fruit is only taken as an addition to the usual nourishment, especially in the case of very sweet grapes, a large quantity of hydrocarbon is created, very useful in the treatment of incipient phthisis.

GENERAL TOPICS.

Speed, Boldness and Brilliancy in Operating.[1]— Visitors in surgical clinics are sometimes carried away by the speed and boldness with which some operation has been conducted. Their enthusiasm is often well founded, but occasionally it is furnished chiefly by the distance of the gallery from the operating table, which prevents the display of those errors of technic or judgment that have made the speed possible. If the admiring visitors learned how often the patients of some brilliantly speedy operators suffered with secondary hemorrhage, avoidable infection, disability from injury to important structures or relapses from incomplete operation, their "bold" surgeons would more properly come to be known as "bold bad" surgeons.

Speed without hurry is the accomplishment of the skilled technician who knows what he wants to do and knows how he wants to do it. Boldness is the quality of him who appreciates no less the limits to which he may safely go than the extent to which his individual handicraft can carry him. Brilliancy is the combination of these factors with originality, with the capacity to match quick wits against unexpected conditions and to fit physiological principles into pathological emergencies. Speed, boldness and brilliancy are the disiderata of all operators—the possessions of a few masters. They are factors in the saving of individual lives and in the development of new surgical fields. But when speed is mere hurry, when boldness disregards anatomy and flouts surgical principles, when brilliancy is but the quick move to cover errors of judgment, commend your body rather to the surgeon who is painstaking and deliberate, whose work is not "showy" in the operating room—nor on the autopsy table!

[1]Editorial, *Am. Jour. of Surgery*, Nov., 1910.

Incarceration for Life and Its Consequences.[1]— Just 12 years ago the Italian anarchist Luccheni was sentenced to life-long imprisonment at Geneva for the murder of the Empress of Austria as she was entering a steamboat on that lake. It was said at the time that he selected his opportunity so as to commit the crime in a canton where the death penalty had been abolished. However that may be, he was sentenced to solitary confinement within the prison of Eveché, and for a time seemed to reconcile himself to his fate with a cynicism which might pass for equanimity. But in his case, as in well-nigh every other of the kind, symptoms of mental alienation betrayed themselves, mainly in explosions of anger accompanied with violence, in one of which he nearly killed the director of the prison, M. Perrin. Since then, the surveillance imposed on him having been made more stringent, the isolation, and the morbid brooding, intellectual and moral, which it encourages, began to tell, and he was closely watched as an inmate whose next outburst might be homicidal or suicidal, or both. Set to work at bookbinding, an occupation which seemed to soothe him, he had his work prescribed for him a few days ago by the head of that *métier,* but in a sudden access of discontent, passing into rage, his language and demeanour became so aggressive that he was consigned to his cell to await "discipline." No sooner had the door closed on him than his fury became maniacal. He seized every utensil within reach and hurled

[1]*London Lancet*, Oct. 29, 1910.

it through the window, endangering the wayfarers in the street below with the débris, and attracting a crowd to the spot. This brought the new director, M. Ferres, accompanied by six able-bodied keepers, to his cell, where, after a violent struggle, he was pinioned and placed in an underground place of detention. Such explosions, occurring so frequently in the case of criminals expiating the life-penalty in seclusion, are now regarded in Italy as the inevitable outcome of the treatment, and issuing as they do in chronic mania and finally in dementia, are already reviving discussion as to the justice, or the wisdom, of exposing the felon to such a fate. A few months ago Passanante, who attempted King Humbert's life in 1878 when on a royal progress through Naples, died prematurely, a decrepit imbecile in the asylum for the criminal insane at Montelupo in Tuscany, and the miserable spectacle he presented for years before sufficed to awake misgivings in Italian medico-legal circles as to whether the gallows or the guillotine might not appropriately resume its function, after more than a generation's experience of the futility of solitary imprisonment for life as a deterrent and of its cruelty as a penalty. Reference was made in the course of discussion to the classical debate on capital punishment in our House of Commons in the late "sixties" of last century, when John Stuart Mill powerfully advocated its retention on the ground of humanity, and another authority, Sir George Bowyer, clinched that thinker's argument by facts drawn from his experience of Italy as to its deterrent value. Since then M. Briand, the French Premier, has sen the wisdom of a return to the guillotine, after the non-success of its quasi-humanitarian substitute, "burial alive within four walls," in checking the rising, spreading "tide of bloodshed" among the civil population. A similar revulsion of feeling and conviction is apparent beyond the French frontier, and the suicide of Bresci at Stefano, the tragic "life-in-death" of Passanante at Montelupo, and now the maniacal outbursts and terrible fate of Luccheni at Eveché, will go far to bring about the revival of a punitive method rescinded on grounds of sentiment rather than of legislative wisdom. Luccheni committed suicide in the subterranean cell to which he had been relegated a few hours before. His violence in demeanor and language had so far calmed down that his keepers allowed a brief interval to elapse before renewing their watch over him. He had indeed been singing gaily after being removed to the strong room, and it was with something more than surprise that at 6 P. M. on the occasion of the evening visit he was found dead, suspended by his leathern waist-belt from the iron grating of his window. Post-mortem examination is expected to yield results, particularly as to the cranium and its contents, which will give peculiar interest to the medico-phychological report on the man and his history. Megalomania, or the symptoms which lead up to it, were, in the opinion of more than one specialist, in evidence not only at the trial in November, 1898, but also during the years of subsequent detention, in so much that his repeated outbursts of rage, invariably coincident with "wounded *amour propre*," came to be looked for as inevitable on every occasion when the discipline or the work connected with it was not to his taste or liking. According to some who have been interested psychologically, in his case, his intense love of notoriety, his eager craving to "get talked about"—conspicuous throughout his whole career in society or when excluded from it—explains the act of self-murder which makes his fellow prisoners congratulate themselves (according to the Italian journals) on having been thus relieved of an eminently disagreeable, not to say dangerous, companion.

Elementary Cookery.[1]—The remarkable habits of the harvester ant have long been known to naturalists. Certain species are said to have advanced so far in the science or art of agriculture that they not only harvest and store in granaries the seeds upon which they feed, but actually plant and cultivate an annual crop of their food seeds.

But now a still more wonderful story is told of an ant which is common in Dalmatia, *messor barbarus*. According to Professor Neger, of the well-known forestry school near Dresden, this ant not only cuts leaves and gathers seeds, but actually makes bread or biscuit. The seeds are first sprouted,

[1] *Good Health*, Nov., 1910.

then carried into the sun and dried, then taken back to the underground chambers, where they are chewed into a dough. The dough is then finally made into tiny cakes, which are baked in the sun, then carefully stored for future use.

From these observations it appears that the art of cookery is not wholly confined to the human race. All cooking is done by the sun, whether in the ripening of fruit or in the baking of bread in a stove. The heat obtained from fuel is simply stored-up sunlight set free. The Arab and the native Mexican speak of ripe fruit as fruit which has been cooked in the sun. The ant has somehow learned the art of sun cookery, the saliva with which it moistens the grain probably taking the place of yeast and sweetening through changes set up by its influence upon starch.

SPECIAL THERAPEUTIC ARTICLES.

THE CAUSE OF ARTHRITIS DEFORMANS.

BY

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The cause of arthritis deformans or osteo-arthritis, also known as the "poor man's gout," remains to be defined. The effects of this affliction have been exhibited for ages. The absence of any specific knowledge of how to stop the progress of the disease may be due to the lack of knowledge of its cause.

The constant occurrence of the symptoms of rheumatism, and sometimes of those of gout, in conjunction with arthritis deformans indicates, to my mind, that the cause of arthritis deformans is likewise to be found in the products of imperfect metabolism of the proteid bodies. That the diagnostic exhibits, that are so characteristic of each of these closely allied diseases, are but grades of effect produced in proportion to the nature of the defect of the product of this metabolism. That the nature of this defective product varies in accordance as to whether the imperfection arises in the anabolic or in the catabolic end of the metabolism, and as to the condition of these proteids whether in a stage of puetrefaction or not upon entering the process of assimilation.

Gout is caused by an excess within the organism of uric acid that is produced (instead of water, carbonic acid and urea as terminal products) from the proteid bodies through the cause of imperfection occurring in the catabolic end of the metabolism. The arthritis effects of this disease are exhibits of addition, through deposits of biurate of soda—sometimes forming tophi—in the cartilaginous and fibrous structures. These deposits first produce pain and swelling by their irritation; and the pressure exerted on the tissue elements may impede the process of nutrition. Where the process of nutrition is not shut off these deposits can be dissolved and removed.

Rheumatism is, to my mind, a synonym covering a multitude of aches arising from decomposition products of proteid bodies regularly produced through physiological metabolism. These products or leucomaines which belong to the choline, the uric acid, and the creatine groups possess a poisonous nature. By their imperfect excretion or oxidation they may lodge in the larger voluntary muscles and their aponeuritic coverings and cause pain—as in lumbago.

Acute or inflammatory rheumatism is, to my mind, an autobacterial infection de-

veloped during the catabolic or retrograde metamorphosis of the metabolism of the proteid bodies. These proteid bodies being in a, more or less, condition of putrefaction when they enter the cells so disturb them in such a manner as to interfere with the proteolytic action of the enzymes (the chemical tools of the cells) and cause such a decomposition to take place in these proteid bodies as to produce poisonous substances—instead of energising food as terminal products. These toxins so irritate the organism as to cause the formation of an abundance of lactic acid, from a destructive loss of the proteids of the muscles, and create a fever as much or more pronounced than the fever exhibited from any other infection.

In evidence of the close association of the cause of muscular rheumatism with the cause of the development of the poison of inflammatory rheumatism, as described in the *Medical Council,* Sept. 1910, is exhibited in the case of:—

A man aged 55 years. Chilled completely through from exposure, in attempting to visit many places within a limited time by means of his automobile, without sufficient protection. Three days afterwards he was suffering from inflammatory rheumatism in the left knee. This was the first ache of rheumatism he had ever felt, and the first illness during his entire life.

At noon he was suffering quite severely. His knee was swollen and red from the inflammation. Pulse 120. Temperature 103°. At this time he began the use of a-f-sal (an acetyl- and formaldehyde-bearing compound of salicylic acid) in doses of *thirty grains every hour.* By 10 p. m. he had taken three hundred grains. His bowels had been moved twice during the evening from the action of the medicine. The swelling and redness had gone, as well as the pain, except when walking. The next morning he did not resume the use of the medicine until 10 o'clock—owing to his radical improvement. During the day he took eight doses of thirty grains each. At 7 p. m. he walked upstairs without pain. Upon finding that he was free from all of the symptoms of the disease he stopped the use of the medicine.

One week later he suffered severely from an attack of lumbago—which came without any exposure or indiscretion in diet. He resumed the use of a-f-sal and took two forty grain doses and eight doses of thirty grains each, one hour apart during the day. By night he was free from the lumbago pain. To prevent any further relapse, however, he took four doses of thirty grains each for several days.

The attack of lumbago, following the inflammatory rheumatism, was due to the fact that he first ceased the use of the medicine before eliminating all of the toxins and the restoration of normal metabolism. It demonstrated, though, that the two forms of rheumatism are exhibits modified by a variation of the disturbance at the seat of the cause. This case also shows that the lowering of the vitality impaired the function of the metabolism and permitted the development of the rheumatic poison.

Arthritis deformans or osteo-arthritis is, to my mind, an auto-infection arising in the anabolic process of metabolism, whereby the loss of essential nourishment occurs, due to the failure to convert the proteids into their proteoses and resulting peptones. This failure may be due to both a putrefaction of the proteids and to an inertia of the cells in not producing the enzymes so essential for the splitting and oxidation processes to transform the proteids into living energy. The effects of this disease are exhibited in the constitutional condition of anaemia, and in the local manifestations of crepitus due to the *minus* quality from the destructive *loss* of cartilaginous coverings of the bones, within the synovial sacs of the motor joints attacked, *plus* the additional quantity of callous material thrown out by the organism in nature's efforts of defense or repair—as illustrated in cases of fracture. This occurs as polypoid or fungoid excrescences of the bone. Further effects are exhibited in the thickening of the synovial capsule and attached ligaments; flexion of the fingers and toes; atrophy of the connected muscles, etc.

The destruction of the cartilage looks like the results of infection. The exhibit of the undue atrophy (in much excess of that atrophy resulting from non-use) of the muscles controlling the attacked joints, may be secondarily caused by the nervous system—through its impairment from lack of nutrition. In my opinion it is primarily due to the *materies morbi* developed during metabolism.

It is also possible that such other effects of this affliction, that are similar to those produced from causes where the origin of the diseases have been found located within the nervous centers, are but the secondary results from the disturbance of the nervous functions—because of the primary failure of the anabolic end of the metabolism of the proteid bodies to yield the essential nourishment to the nervous centers.

The syrup of the iodide of iron has long been recommended as the best therapeutic agent to be used in osteo-arthritis.

Why?

Not because of any direct specific action on the nervous centers, but because it is a means to the end in aiding metabolism—where the cause of the disease is to be found. Oxygen is absolutely essential to the process of oxidation and cleavage in the metabolism of proteid bodies. When these bodies are undergoing the process of assimilation within the chemical laboratory of the organism—the living cell—an atmosphere of oxygen is essential that the oxygen may unite with the hydrogen—split off in the reduction of the complex proteid molecule into the more simple molecules—in the formation of water, carbonic acid and urea. This supply of oxygen is conveyed there by means of the oxyhaemoglobin of the red blood corpuscles. The iron products increase the quantity of oxyhaemoglobin which thereby enhances the supply of oxygen needed in metabolism.

Another evidence that the symptoms suggesting nervous origin are but the secondary effects of the involvement of the nerves is exhibited by the results of a product acting on the other side of the process of metabolism. This agent has but little alterative influence upon the nervous centers, but does have much value as an internal antiseptic remedy. In substantiation of my theories as to the cause of osteo-arthritis I here exhibit three well defined cases—which are not selected nor the best ones. In every one of these cases there has been a cessation of the further progress of the disease, with an amelioration of their suffering—plus the obtaining of a marked improvement in their general health.

Case I. A man aged 42 years. Was anaemic and had lost twenty pounds in weight prior to the appearance of a pain like rheumatism in the lower ribs. Subsequently a dull ache appeared in the ankles. This happeneed five and one-half years ago. Eight months after this there were severe pains in the shoulders and back, that felt like "bone pains." At this time the toes also commenced to pain and their joints to enlarge. The right knee became swollen four years ago. The muscles of the thigh and calf became atrophied. Crepitus afterwards appeared in this knee joint. Later on the left knee became involved, but not so severely as the other. At this time the wrists became quite stiff. Every six or eight weeks or so after this the knees would become swollen and painful.

The exhibit of crepitus within the phalangeal-carpus joints of the first and second fingers of the right hand show the destruction of cartilage of some of the bones within the synovial capsule. These joints are also enlarged from polypoid excrescences. The last phalanges of these two fingers are flexed inwards to an angle of thirty degrees, whilst the phalanges of the third and fourth fingers are flexed inwards to right angles.

There was considerable bronchial catarrh and an ensuing cough which caused much annoyance.

On July 2, 1910, he began the use of a-f-sal in doses of 30 grains three times daily. In about three weeks there was less coughing, from the lessening of the bronchial catarrhal

secretion, and a limbering up of the general stiffened condition of the body—that had existed for several years. In the middle of August a periodic exacerbation of the swelling and pain in the knees occurred. An attempt to overcome this was made by increasing the daily amount by two extra doses of the medicine. This had to be desisted from for a few days—on account of a diarrhoea ensuing from the use of these extra doses. The corrective use of a bismuth compound controlled the diarrhoea. In the meantime this diarrhoeal objection eliminated itself by the system establishing a toleration for the a-f-sal. After the use of these extra doses of 30 grains was obtained, the swelling and pain in the knees promptly subsided. Since then he has been able to take the increased amounts, when necessary, without any undue action on the bowels.

After six months' use of this compound in daily amounts averaging from 90 to 150 grains, there is:—

(1) A betterment of the general health—with increased strength.

(2) A comparative freedom from the bronchial catarrh and its cough.

(3) Increased use of the knee joints, with a modified crepitus, and a reduction in their size—with no recurrence of pain and swelling in them for the past four months.

(4) The flexibility of the wrists and fingers, and especially between the first and second fingers of the right hand, which had become quite stiff, is markedly improved.

Some transitory pains are occasionally felt in the elbows and shoulders—but these pains are not nearly so severe as they formerly were.

The urine is free of albumen.

In the patient's own language, expressing why he "is satisfied" with the treatment, he stated:—

"Connected with my ability to again do what I had lost the power of doing there are many details that, put them all together, make a whole lot. I cannot describe them all at once. I can walk around and up and down stairs quicker and easier. I am generally more comfortable."

Case II. A woman aged 34 years. Symptoms of an impoverished condition of the system began 15 years ago. Eight years ago she suffered from a severe attack of sciatica. Seven years ago the symptoms of arthritis began to appear within the synovial coverings of the metatarsus of both feet. The ankles enlarged and were for some time quite painful. In 1904 the articulations of both wrists became involved—resulting in a condition of immobility.

All of the many treatments that she received proved of little avail, until the fall of 1909, when she received satisfactory temporary benefit, through the subsidence of the rheumatic complication, from medicine she received in a sanatorium in New York City.

In the beginning of August of 1910, she began the use of a-f-sal in 30 grain doses four times daily. Much stiffness and a steady dull pain was then felt in the upper spine—causing fear of a bent and permanently stiffened neck. In a month's time there was entire absence of the back and neck troubles, besides a subsidence of some of the swollen condition of the ankles. She then lapsed to three doses, of 30 grains each, per day. On several days she omitted it entirely. In the beginning of October, a tensely swollen condition took place in the same joints of the fingers that had already been involved. In appearance it looked semivascular. She was then daily given six doses, of 30 grains each. Within four days the new infection of these joints disappeared.

On Jan. 3, 1911, she stated that she:—

"Was feeling stronger than for years and no longer had her faint and exhausted spells; that she could now do her work and walk about outdoors with much more ease—for she had better use of her hands and her ankles were reduced in size; that her appetite was extra good and that her family were pleased with the general improvement in her condition.

Examination of the urine showed no albumen.

Case III. A man aged 62 years. During the prime of life he enjoyed the best of health. A condition of anaemia came on, apparently from overwork. In 1903 arthritis deformans appeared in the articulations of the first and second phalanges of the fingers of both hands—with an inflection of the fingers towards the ulnar side. This was shortly complicated with the involvement of the articulations of the toes of both feet. He consulted one of the eminent professors of Philadelphia, who ordered him to the warm baths of Bad Gastein, Austria. From there he went to the hot baths at Hot Springs, Va. Afterwards, he tried the treatment at the Mud Baths at Mudlavia, Indiana. No relief was obtained at any of these places. The various remedies prescribed by the many physicians he took without any avail until in the autumn of 1909, he underwent treatment in a sanatorium in New York City. Here he was relieved of the rheumatic symptoms and came home feeling much better. The drastic diarrhoea and prolific sweating, he here received, interferred with the continuation of the treatment.

In December of 1909, whilst walking on the street, he was suddenly attacked with an excruciating pain in the right hip, simulating sciatica, which at once took away his ability to make use of his right lower limb. A conveyance took him home. Because of the intense suffering from the destruction of the cartilage of some of the surface within the hip joint, he was confined to the bed for some weeks. The pain gradually subsided, which enabled him to move around his premises on two crutches. In the slight movements, that the soreness of the right hip joint permitted him to make, a pronounced crepitus was plainly noticed. The muscles of this leg became almost completely atrophied. He could not rotate the leg, neither could he raise it nor cross it over the leg of the sound limb. There was a shortening of the right leg of one inch—which may

have been congenital as his sister has the same defect. His urine was "loaded with albumen and contained many hyaline casts"—as stated by a consultant physician. Another consultant physician informed a member of his family that he was apt to go into uraemic convulsions at almost any time—a condition contra-indicating the use of the ordinary salicylates.

During the last week of June, 1910, he began the use of a-f-sal in 30 grain doses, three times daily—which he continued for a month with but little perceptible improvement. Whilst he was enabled to much more freely cross his arms over his head, which he had previously found difficulty in doing—on account of a stiffness in his shoulders, he had expected a more radical improvement and discontinued the use of the medicine. A week later, however, he was induced to resume its use—which he has continued ever since.

On Jan. 3, 1911, he freely rotated the affected leg; could easily raise it from the floor, when in a sitting position, and cross it over the left knee; could comfortably bear his entire weight upon his right hip joint; and could walk around the room with the aid of two canes. The crepitus of the affected leg was perceptibly much less. The joints of his fingers are smaller, are more flexible and possess increased strength. The nails of his fingers are restored to their normal pliability and are not brittle as they had been for some years. The improvement in his general strength is quite marked. He expressed his gratification of the excellence of his appetite and of his ability to enjoy his food—together with a clearness of a forceful intellect.

The percentage of albumen in his urine is much less and the number of the casts fewer.

The condition of the marked improvement in the general health of these cases was the factor that attracted my attention to the possible cause of this disease. This improvement may be accounted for on the basis that:—

*"Ferments and enzymes are capable of manifesting a different behavior towards certain chemical reagents. Thus there exists a number of substances * * arsenious acid, toluene, salicylic acid, boracic acid * * which in CERTAIN CONCENTRATION kill ferments but which do not noticeably impair the action of the enzymes."*—Hammersten's Text Book on Physiological Chemistry.

The ability of the organism to withstand the essential prolonged use of such agents in the necessary *certain concentration,* naturally narrows down the list of the products to those that must, more or less, possess the attributes so characteristic of foods in the quality of being comparatively free from injurious action on the organism.

Correct metabolism cannot occur in the presence of irritants to the epithelial cells of the intestinal mucous membranes.

Whether the irritant is putrefying food, or intestinal bacteria, the specific action of a-f-sal in restoring normal metabolism in inflammatory rheumatism and lumbago is established.

When the defect in metabolism causes the formation of excessive quantities of uric acid—instead of water, carbonic acid and urea as terminal products—producing gout, the specific action of a-f-sal in terminating this imperfection and conjointly removing the irritating action of uric acid on the organism, in addition to dissolving the deposits of biurate of soda—where the nutritional processes still exist—is also established.

The obtaining of the above authenticated clinical results—in conjunction with the established value of a-f-sal as an intestinal antiseptic as second to no other remedy tried for pancreatic putrefaction (*The Journal of the A. M. A.,* p. 822, Sept. 5, 1908) and superior to the products of the Pharmacopoeia used by the writer of the article for that purpose—confirms my opinion that the cause of arthritis deformans, gout and rheumatism lies in faulty metabolism and that this defect with the exception of supplying the tools of the cells —the intracellular enzymes—is overcome, either:—

(1) By the medicine entering the protoplasm of the epithelial cells and there, WHEN IN SUFFICIENT CONCEN-

TRATION, exerting a two-fold action of (a) inhibiting the production of *poisonous substances*—from the action upon the proteids by the intestinal ferments or from micro-organisms in causing putrefaction—and at the same time (b) permitting the proteolytic action of the intracellular enzymes of these living cells in converting the proteids into proteoses and then into peptones.

(2) By its conserving the tissues in preventing the formation of bacterial proteids —which cause increased destructive loss of the proteids of the system.

(3) By the possible formation (by the action of the formaldehyde split off from a-f-sal) of the food product *protogen*—which possesses the nourishing value of the alkali albumenates, as described by Blum (Zeitschr f. Physiol. Chem. 22).

(4) By the possibility of its first acting, when within the cell, as a catalysator that remains staple until after its contact excites cyclical action for the essential consecutive oxidations and repeated cleavages to yield the final healthful produces of metabolism, and then itself suffering cleavages and recombinations.

Trenton, N. J.

LITERARY NOTES.

American Medical Journalism.—There never was a time in America when medical journalism was on a higher plane. It is difficult to understand how any one but the most hopeless pessimist can review the present work that is being done by the medical journals of the country and not be astounded at the splendidly conceived character of the material that is being presented to the medical profession. A few years back there was a disposition on the part of many physicians to discount the objects and efforts of their medical publications. While conditions never warranted the extreme and ruthless condemnation voiced by not a few medical men, it cannot be denied that medical journalism was far from fulfilling its whole mission, or making the most of its opportunities for promoting progress in medical affairs. Today this condition no longer obtains and the physician who fails to recognize the invaluable aid accorded him by the leading national and local medical journals, is losing much that makes the practice of medicine interesting, and worth while.

Consider for instance the weekly journals. Scanning the 1910 indexes shows a really wonderful year's work by every one of the following weeklies,—the *Journal of the American Medical Association,* admittedly one of the world's greatest scientific publications, the *Medical Record,* solid, clean and strong, the *New York Medical Journal,* progressive, up-to-date and finely edited, the *Lancet-Clinic,* interesting, aggressive and helpful and the *Boston Medical and Surgical Journal,* reflecting in every issue the conservatism, strength and solidarity of the practitioners of New England. Every one of these publications is representative of the best in medicine and serves its readers honorably and well. Although each has its special features, doubtless those concerned with the publication of each see ways in which their journal can be improved. In other words certain ideals are involved in their evolution, a fact which has unquestionably been responsible for their onward march.

Concerning the monthly journals, equally good things can be said. In fact, the monthlies have made even greater improvements because of the larger opportunities. Space precludes individual mention except in a few instances. Hardly a publication of the approximately three hundred appearing regularly has failed to reach out and strive to justify its existence. To some this has been difficult, but who is there who can say that the humblest, weakest and apparently least important medical publication has not served some honorable purpose and added its mite to the sum total of medicine's substantial progress? We are not of those who see absolute failure in anything and we feel that the least conspicuous and seemingly least valuable projects often sow seeds that bear fruit of far greater relative worth and excellence than that of more promising origin. Relative values often define actual worth. Untold riches under certain circumstances on a barren isle are worthless; a single piece of whale's blubber often has a dietetic value to an Arctic traveller, compared to which the world's dainties are as

nothing; a swallow of dirty, brackish water to a traveller who is suffering from thirst, is sweeter than the finest spring water to the man who has plenty. And so the humblest medical journal printed poorly and cheaply may yet through a combination of events serve a much larger purpose in some instances than the most scientific and elaborately prepared publication. This is not a recommendation for indifferent methods or insignificant effort; neither is it a criticism or reflection on aspiration and ambitious enterprise. But in the application of the thought to medical journalism the idea we seek to convey is that no honest effort however humble and simple is wasted and many of the medical publications that have been considered worthless and a waste of time may have accomplished more than appears superficially. Our remarks do not refer to publications that have had any other than honorable motives. Those conceived for selfish, dishonest and improper designs have usually succumbed as soon as their parentage or purposes were recognized. This outcome is always to be hoped for in such cases. But the strictly honorable journal, however much it may seem unnecessary and uncalled for, should be given every chance to win any success it may deserve and incidentally to accomplish any good it can. This is only the spirit of fairness, the spirit that has been responsible for the growth of many an American enterprise that however small its beginning has yet added its full share to our national stature.

Recent issues of the leading medical monthlies bear eloquent testimony to the sound basis on which they now rest. The old feeling of suspicion is gone and the men who are making medicine and surgery what they are to-day, with their rich possibilities and splendid achievements, are likewise enriching contemporary literature.

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The Annual Progress number of the *American Journal of Clinical Medicine*—the January issue—is before us and careful perusal shows that it well exemplifies the foregoing. Beautifully printed, splendidly edited, this publication is indeed a credit to modern medical journalism. It is no exaggeration to state that no medical journal has done more for the general practitioner than the *American Journal of Clinical Medicine*.

The January number of the *Interstate Medical Journal* is a fine issue devoted exclusively to the subject of syphilis.

The list of articles is as follows:

"The Influence of Syphilis on Civilization," Wm. Osler, M. D., Oxford University.

"Present Status of the 'Noguchi Test,'" Hidego Noguchi, M. D., New York.

"On the Means of Finding the Spirochaeta Pallida, With Special Reference to the India Ink Method," (From the Laboratory of the Michael Reese Hospital), J. S. Cohn, M. D., Chicago.

"The History and Methods of Application of Ehrlich's Dioxydiamido-arsenobenzol" (from the Royal Institute for Experimental Therapeutics), Lewis Hart Marks, M. D., Frankfort-on-Main.

"Recent Progress in the Treatment of Syphilis," H. Hallopeau, M. D., Paris.

"Treatment of Syphilis with Ehrlich-Hata '606'," Abr. L. Wolbarst, M. D., New York.

"Syphilis of the Nervous System," Ernest Jones, M. D., Toronto.

"Syphilis and Pulmonary Tuberculosis," Robert H. Babcock, M. D., Chicago.

"Syphilis as a Cause of Pauperism," A. Ravogli, M. D., Cincinnati.

"Giant Cells in Syphilis," John A. Fordyce, M. D., New York.

"Personal Observations with the Ehrlich-Hata Remedy '606,'" B. C. Corbus, M. D., Chicago.

"Syphilis and the Public," Isadore Dyer, M. D., New Orleans.

"Sanitary Regulation of Prostitutes," Prince A. Morrow, M. D., New York.

In addition to the above, there will be four "Collective Abstracts" (critical reviews of recent literature in collective form) on (1) Ehrlich Hata "606," (2) the Cerebrospinal Fluid in Syphilis and Parasyphilitic Diseases, (3) Serum Diagnosis of the Osseous Lesions of Syphilis by the X-Ray.

The January issue of the *American Journal of Surgery* is composed entirely of original contributions from the pens of

well-known Southern surgeons. Among the excellent papers that appear are the following:

"Pyuria," by Howard A. Kelly, M. D., Baltimore, Md.

"Transfusion of the Blood, Its Indication and Technic," by J. Shelton Horsley, M. D., Richmond, Va.

"Tumors of the Lower Jaw, the Form Most Frequently Found in the Negro," by Willis F. Westmoreland, M. D., Atlanta, Ga.

"Pylorospasm," by Stuart McGuire, M. D., Richmond, Va.

"Prevention of Immediate Post-Operative Pain by Quinine Injections," by Drs. V. and V. W. Pleth, Seguin, Texas.

"The Importance of Educating the Public in Regard to Cancer," by Southgate Leigh, M. D., Norfolk, Va.

"Aerogenes Infections," by George R. White, M. D., Richmond, Va.

"Stricture of the Rectum, Complicating Fistulae," by C. S. Venable, M. D., San Antonio, Texas.

"Gastric Symptoms From a Surgical Viewpoint," by Louis Frank, M. D., Louisville, Ky.

Dr. Edgar D. Capps, of Ft. Worth, Texas, and H. Berlin, M. D., of Chattanooga, Tenn., will also contribute original articles to this number.

SOCIETY PROCEEDINGS.

THE YORKVILLE MEDICAL SOCIETY.

Regular meeting January 5, 1911.

THE PRESIDENT, DR. E. DITTRICH IN THE CHAIR.

Case of Old Trachoma Cured by Operation.—Presented by Dr. Armin Nettle. In using the term "cured by operation" we usually refer to acute cases of trachoma, but when it is a chronic case the expression does not usually mean very much unless we do the more radical operation of excising the mucous membrane of the lower and upper eyelids and the tarsal cartilage of upper lid. This boy was operated upon five times, and none of them did any good excepting the last, which was performed during February last, and the boy has had no trouble since then.

Demonstration of Mechanical Device for the Relief of Labor.—Presented by Dr. Caesar Von Ramdohr. It is well known that if the sacrum is supported during labor and during the labor pains, the pain seems to be relieved. Women like to have themselves lifted during labor, and this is usually done by the nurse, husband, or physician. If they like it, why should not they have the relief or support, whether it be imaginary or not? This apparatus was devised by a German mechanic for lifting the patient and so relieving the labor pains. The physician is supposed to carry this thing with him to every labor. At first the board was extended full length, but now it is hinged in the middle and can be folded, and carried under the arm to each case. The idea is to put the woman on the block, which is supposed to be strong enough to stand the strain of some weight; but when this one was placed on the bed frame with a woman weighing 150 pounds on it, it immediately broke. This patent arrangement, which is hinged in the middle, is of no good whatever. This one was made in Germany—not as things used to be made—and it is no good at all. It has never been used but once, and yet it broke in the middle at the first trial. The idea is that with the woman lying on the block, this screw is worked, and by screwing and screwing the woman is lifted in the middle. If any one wants to try this screw business, if he has not gloves on and is not a strong man, he is welcome to do it. Dr. Von Ramdohr said that he thought he had some strength but could not use the apparatus without breaking his fingers. The testing of the idea had cost him 89c duty, and many letters, and he had written the inventor he had better give it up. The first objection is that it is not strong enough; the next is that it is septic, and can never be properly used—you would have to have one for each labor; third, it is not long enough for a double bed; and fourth, by the time you have it screwed up the labor pains would be almost gone. Dr. Von Ramdohr said that if any one was interested in the device he would gladly lend it for trial, but that he could not recommend it. Doubtless if the inventor should advertise it at fifty cents he could sell it by the tens of thousands to women who expected to be in labor, but as far as its scientific value is concerned there is nothing in it.

Flat Foot in Women and Children.—Presented by Dr. Sigmund Epstein, who finds the correction of flat foot a simpler matter than most average practitioners deal with in daily routine. Taking up the subject in somewhat chronological order, he advises early treatment of congenital splay-foot with plaster paris, warns against the use of "corset shoes" in rachitic children, on account of their function restricting properties.

In speaking of the flat foot of adolescence, the writer points out a series of cases in working girls of tender ages, who, keeping pace with Dame Fashion, wear their calf or suede pumps. Ascribed to "overplay" he classes those flat feet in young women students of "folk-dances" that have been lately popular. In certain cases he prescribes a period of rest for the feet, in others the feet are strapped; the method being to encircle ankle and tarsus with zinc oxide plaster. Painful symptoms subsiding, a Whitman flat foot plate is fitted. Mechanico-therapy takes first rank as a supplementary method of treatment. A series of exercises, involving weight-bearing, and some avoiding it, were then demonstrated. Taking up flat foot in the child-

bearing period, he reviewed conditions and changed habits that modify the type of cases seen, and thus required more careful management. For varices, he uses the crepe bandage when the complication arises, winding it over the adhesive dressing. He described the importance of the annular ligament as a sort of "ring support" to the leg tendons as they pass over the ankle. At the menopause, osteoarthritis and the various arterio-sclerotic changes seen at this age, complicate if they do not dominate the picture of feet encountered. Buttermilk is heartily recommended.

Dr. Krauskopf in discussion said he was not an orthopaedic surgeon, but he wished to thank Dr. Epstein for the interesting and scientific paper. There was one point, however, where he felt he must take issue with the doctor. In discussing the cases of poliomyelitis he made a drastic statement, and said that he was glad to say that his electric apparatus was rusty from disuse. Dr. Krauskopf said that his experience in this matter had been quite extensive, and as far as anterior poliomyelitis was concerned the men who have laid aside electrotherapeutics in the treatment of the disease are the men who do not understand its application. Properly applied in the proper form, he has seen these cases improve wonderfully. In these cases the majority of the patients had been fortunate not to have to approach the orthopaedic surgeons for assistance, for the simple reason that the effect of the electric treatment was such that the patients had little or no deformity, if seen early enough. He would not take the time to explain the method of application, but properly applied to the muscles affected and properly applied to the spinal column, the current can reach by direct contact into and through the spinal canal to produce sufficient hyperaemia in the anterior cord to do a great deal of good.

The paper certainly was an excellent one, even if all could not properly appreciate all the points that had been made, but he would like to have an opportunity to show Dr. Epstein that electrotherapy in anterior poliomyelitis is not to be disregarded.

Dr. Grosse said that he had greatly enjoyed Dr. Epstein's paper, and had no intention of criticising it in any way, but as Dr. Krauskopf had advocated the use of electrotherapy in the treatment of the foot, he wished to say a few words about the use of hydrotherapy in such cases, which must necessarily be superior to electric treatment, for that deals merely with the distribution of the blood, while hydrotherapy affects both the distribution and the formation of blood. It has been his experience that many cases that are beyond the help of the surgeon should be treated by the physician at the same time. In all these disturbances that Dr. Epstein had spoken of we have to deal with nervous troubles and disturbances of circulation. In many cases of chronic foot disease the whole foot shows a marble color, and is cold and almost lifeless. In all of these cases hydrotherapy is absolutely beneficial. Not only can we control all paraesthesias and pain, but we can provide the foot with a better circulation and nutrition. Hydrotherapy will not only influence the leg itself, but also those central portions which are in close connection with it—not only does the innervation from the spine to the extremities, but also from the extremities to the spine. He had not time to go into the details of the treatment, but hoped that Dr. Epstein would find a way in which to co-operate with him for a short time in order to learn what may be accomplished by hydrotherapy.

Dr. Epstein said that he had been much interested in what had been said by the gentlemen who had discussed his paper—but in reply to Dr. Krauskopf, who had laid down the dictum that electricity fits all cases of infantile paralysis—he would like to say that he was familiar with electrotherapeutic treatment in its various forms. During the epidemic of 1907 he had worked not only in the orthopaedic department at Vanderbilt Clinic, but also at the Hospital for the Ruptured and Crippled ,and in Dr. Starr's clinic—using electricity under the men in charge—and that he had seen most of the cases of anterior poliomyelitis that came to the nervous department, and many of them did not reach the orthopaedic surgeon. He was willing to admit that Dr. Krauskopf had been singularly fortunate. He must have seen just those cases of infantile paralysis in which the most visible signs of the paralysis were due to a form of oedema which is often present in the anterior horns. Much of the improvement in the first six weeks or two months of infantile paralysis is due to the clearing up of the oedematous parts of these anterior cells, and this is ascribed to electricity, instead of to the natural causes. As he had said already, electricity had been freely and properly applied to every part of those paralyzed. In his own opinion, the best way to increase the anterior spinal circulation is by strychnine in ascending doses. That has given him the best results. The improvement of these short term cases is due to the forces of nature rather than to electricity. This summer, in Washington he had heard neurologists say that they did not believe in electricity in the treatment of infantile paralysis, preferring to have the orpthopaedist prevent deformity by *his* peculiar methods. They not only laid down their arms, but practically immolated themselves before the orthopaedic surgeons.

Replying to Dr. Grosse, he said that he knew very little about hydrotherapy in infantile palsy, but should be very glad indeed to co-operate with him. He believed in the co-operation of surgeons and internists in affections of this sort, just as in other branches. More is done by co-operation than by antagonism. It was most pitiable to see those cases of cold, white-mottled feet, to which the doctor had referred, and if he can get a foot of that kind to assume warm and healthy looking appearance he has accomplished a great deal of good for the human race. If he can increase the circulation in the central part of the spinal cord in a scientific way by hydrotherapy, he has certainly done much for cases of acute anterior poliomyelitis.

American Medicine

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Public confidence in the medical profession seems to be increasing instead of decreasing as some few physicians think. It is rather amazing how laymen take so much for granted whereas a short time ago there was such skepticism that physicians could do the right thing only at the risk of suffering in reputation or even losing their practice. Indeed, this confidence generally overestimates our abilities and leads to expectation of relief where none is possible. Of course every doctor has faults—he wouldn't be human if he were free of them—but it is unfair to blame a profession for individual shortcomings. We all look askance at new ideas and it is well that we do, for the patient's welfare demands that we hold fast to that which is known to be useful lest we run after false gods. No change is acceptable unless it is proved to be for the better, and by insisting upon the proof one is not an obstructionist to progress. This conservatism in the very midst of a feverish progress, is what increases confidence. A careful survey of all the alleged reasons why we are losing caste, as detailed by Dr. Geo. F. Butler in the *New York Medical Journal,* shows that each one of them is in reality a fault of only a few men, and even these faults have value.

Individual faults balance each other so that the profession as a whole is generally just where it should be. Some tend to be too scientific and neglect the patient, others may fail of duty to the patient because not scientific enough, but in consultation they make a perfect combination. It is no doubt true that the extremists among the therapeutic nihilists may cause a few patients to turn to advertised remedies, but they keep many more from unnecessary dosing. Those who magnify the mental side of disease are a splendid check upon the materialists who can think of nothing but bacteria, toxins, and demonstrable organic changes. Lack of sympathy with patients is exactly what many of them want, for they know that the physician looks upon them judicially unswayed by any emotion, with the sole end of curing in the easiest, safest and quickest way. Not a few patients are positively injured by sympathy, while an equal number or more are powerfully impressed and improved by the feeling that the doctor is a strong friend to rely upon. It may be true that the lay public notices our differences of opinion on unsettled questions but they note the agreements far more. There is a lack of unity due to the fact that our work is individual, but when we do get together the effect upon public opinion is quite marked simply because that public knows that we refuse to agree on uncertain matters. By this very token, our refusal to agree with those who

think we are losing caste, may mean that our status is uncertain, but the weight of evidence indicates increasing confidence in our real abilities, and fading confidence in those things they falsely assumed we could do.

We are ready to condemn physicians, and undoubtedly they ought to be condemned, who fail in their duty of safeguarding the public health by not reporting cases of infectious disease that come under their notice. But even so, we must not fail in sympathetic remembrance of the obloquy, the possible loss, and maybe ruin, that may stare them in the face if they do their duty. A tragical occurrence that well illustrates this point comes from a small place of some 800 inhabitants in Austria, called Riedau, which depends for a good deal of its prosperity on the influx of summer visitors. The parish physician, Dr. Franz, a native of the place, did his duty last year in reporting to the prefecture a case of typhoid, in spite of all the pressure brought on him from the burgomaster downwards to conceal it. The result was that the story of typhoid leaked out, and not only was the summer season considerably affected thereby, but a number of troops who otherwise would have been billeted there during the military manoeuvres were sent somewhere else. Thereupon a "boycott" was organized against the unfortunate doctor. His house was attacked, his windows broken, threatening letters were sent to him, and worst of all, the tradespeople refused to sell to him, even the necessaries of life. Finally he was dismissed from his post by the local authorities. He appealed to the prefect and was at once reinstated, the parish burgomaster and council were dismissed, and he was given police protection. But still people would not deal with him, his former patients refused to pay their old bills, new patients would not come to him. Broken down in health and spirit, he died a few weeks ago, a martyr if ever there was one to duty, at the early age of 36, and leaving penniless behind him a mother, a wife, and children.

What is the explanation of such rigorous vengeance by an entire community on a man who had only done his duty to the community by trying to preserve it against an epidemic of disease that would have been in the long run far more costly in life as well as in money, when, had an officer of the law done his duty in bringing to justice a criminal the sympathy, and aid if need be, of all respectable citizens would have been with him? A very simple one. In every civilized community public opinion is educated up to the necessity for sustaining the law, and all except the offender, his personal friends, and accomplices, are on the side of law and order as against crime; while in the matter of the public health a large majority are sympathetic with the unfortunate victim, and consequently are opposed to the enforcement of a law to the necessity of which they are not educated up. The criminal wrongdoer has got only what in their eyes he clearly deserves, whereas the sufferer from an infectious disease is just as clearly the victim of a misfortune for which he personally is not responsible and is therefore to be pitied. No self-respecting person ever expects to find himself or any of his kind in like case with the wilful criminal; whereas everyone realizes that, through no fault of his own a visitation of infectious disease may come upon him, and he naturally

sympathizes with the one who is down, and fails to grasp the necessity for making his lot harder than it is.

Yet in a sense criminality is a disease, and the criminal laws are in part a therapeutic measure to redeem the criminal, and in part a moral sanitary measure, to protect the community. The moral is obvious. Hand in hand with, but a little in advance of sanitary legislation should go sanitary education of the public by every means available. It should be taught that disease like the infection of criminality is a danger, not only to the individual victim, but to the entire community, which, if it be allowed to go unchecked it will gradually permeate; and just as the basis of crime is only a revolt against a restriction of the natural will which would be unquestioned in an absolutely isolated individual, but which would render communal life an utter impossibility, so infectious disease is equally a source of danger to the community, which must insist on the right to protect itself as well as to aid the victim in every way possible to a recovery from his state of suffering and disability.

The production of beer without alcohol —not lager beer, but English small beer, a light ale—is a matter that is at present attracting considerable attention in England. A Mr. Overbeck, a chemist in the employ of a large brewing firm, read a paper on January 9th before the Institute of Brewers, in which he announced the discovery of two significant facts: first, that on driving carbonic acid gas produced from soda and sulphuric acid (and therefore not itself a product of fermentation likely to be contaminated by the agents thereof) at a temperature of over 70° F. through beer, the carbonic acid would gradually remove all the alcohol; and that by increasing the temperature to 120° F. there was left a dealcoholized brilliant beer, free from all yeast except ultra-microscopical traces. The percentage of alcohol in the beer was reduced from over 4 to 0.2. The beer thus treated, however, while the same in regard to its nutritive and palatable qualities, was flat and lacked "life." He therefore proceeded to carbonate it by cooling it and passing through it without pressure carbonic acid, produced as before, viz., free from the alcoholic products of fermentation. From this he made his second discovery, and, to his chagrin, he found that the previously dealcoholized beer now contained alcohol again. Repeating his experiment some 20 times, with a view to discovering his error, he almost invariably arrived at the same result, the alcohol thus apparently produced exceeding in amount that present in the beer before dealcoholization. From this he concluded that the carbonic acid, hitherto neglected as a waste by-product, is really a factor of the highest importance, being itself an agent of alcohol formation. The significance of these results, if confirmed on further investigation, will be considerable.

With regard to the dealcoholization of beer one would naturally have supposed that the total abstainer would have hailed such a discovery with delight, as a great aid in the promotion of the cause he professes to have at heart. It seems, however, if we may gather the general attitude from the comments thereon of a member of the United Temperance Council that in addition to preserving a praiseworthy scepticism con-

cerning the validity of the conclusions until substantiating proof shall be forthcoming, he does not think that the discovery will amount to much in any event, for he asserts that "temperance" people do not need beer in any form. Why coquette with dealcoholized alcoholic drinks when there are such essentially harmless fluids as milk and mineral waters, and best of all, water, eulogized of Pindar? As for the beer drinkers, he argues that if the alcohol with its intoxicant qualities be removed from alcoholic drinks, in what way will they be attractive? That would, he thinks, be the play of Hamlet with Hamlet left out! This is a very common mistake among total abstainers. They credit the liking for fermented liquors entirely to their physiological effect, and the fact that most drinkers as a rule stop short of intoxication he regards merely as a matter of degree. But there he is most assuredly wrong. With a very large proportion of those who drink intoxicants "in moderation" it is the taste, rather than the effect, that is the attraction. None of the "soft drinks" hitherto invented can take the place of fermented drinks in the matter of palatability, all physiological effect apart, to those who like the latter. There is as much difference, entirely apart from intoxicant properties, between any fermented drink and any unfermented one as there is between leavened and unleavened bread and if any process can be found that will preserve all the gustatory qualities of fermented beer or other drink while removing its intoxicant properties, a very large proportion of "moderate drinkers"—who nevertheless actually do exist with all due respect to the more intemperate advocates of temperance—especially those to whom a dinner is not a dinner without them, would be satisfied therewith. We are told that several of the brewers present at Mr. Overbeck's lecture failed to distinguish between specimens of their own beers before and after treatment by Mr. Overbeck's process. If this be so, it is fair to conclude that the palatable qualities produced as a result of the prior fermenting process, remain. In that case, the process, by removing all danger of the accidental and in most cases undesired effect, will directly tend to do away with any chance of unintentional stumbling to the "moderate drinker." The man who drinks for the intoxicating effect, whether in a lesser or a smaller degree—and he constitutes. we are quite sure, only a very small portion of the drinkers, will, of course stick to his flagons of unbowdlerized drinks.

A vogue for whole meal bread has recently been started in England as a consequence of the publicity given by the newspapers to the action of a country squire, Sir Oswald Mosley, Bart. This worthy country gentleman, a typical "John Bull" in appearance, is a true son of the soil, and while as tenacious of privilege and rights as the best of them, is a "people's man" at heart, and a practical farmer who makes the welfare of his tenants his own. Sir Oswald, remembering his own periodical visits when a boy from the Hall to the mill, with two bags of wheat to be ground into flour for home use, installed some time ago a stone mill of his own at the Hall, to supply whole meal flour for his own use. His friends liked his bread so much that, like the patriotic country squire that he is, he determined to try to induce his village people to return to the use of the old fashioned whole meal, which, for very many decades has been everywhere supplanted by the far

less nutritious white flour. He accordingly arranged with the local bakers of Rolleston to bake bread from the flour ground in his own mill between the "upper and nether stones," and to supply the flour at the same price that the baker would pay for the flour that he bought from the steam-roller miller, on condition that the baker should try to induce the people to buy the whole meal bread and should sell it at the same price as the white bread. He expects to be out of pocket by the transaction for such a process on a small scale makes its products naturally more expensive in working than those of the mills on a large scale. But he hopes to arouse the community to a sense of the importance of preserving their teeth and bones by not eliminating from the flour its most valuable c nstituent from a hygienic point of view. He attributes the decay of the old-fashioned bread to "up to date housewives and ovens, neither of which can bake bread; the one because she has never been taught, it being easier to buy it at the door, and the oven because it is not made for slow baking but for quick cooking. Undoubtedly the old brick ovens with stick fires inside are the best." When the big bakers and millers were approached on the subject, in the interests of the national physique, they pleaded lack of demand; nor did they seem anxious to create a demand which would derange the easy going of things as they are. The extraordinary publicity, however, given in the English press to Sir Oswald's action is fast creating a demand, for he says: "I have been figuratively deluged with letters from all parts. I have had them from Englishmen, Scotsmen, Irishmen, Dutchmen, Frenchmen, and Germans, while one big firm of millers has written me emphasizing the importance of the proposals." He has further backed his campaign by offering to send a sample loaf for six cents' carriage, paid anywhere within a reasonable distance, until definite arrangements can be made on a larger scale; and it is announced that on Jan. 17th the distribution of sample loaves by mail began with 100 two-pound loaves in neat cardboard boxes.

Sanitarians have long been deploring the replacing of the old-fashioned whole meal bread by the white loaf of "fine flour," which has been deprived in the process of "refinement" of the silicates, the phosphates, and the iron, so necessary to the preservation of the teeth, bones and other tissues. This is a case in which the aesthetically pleasing is most decidedly not synonymous with health. Fashion first decreed that white bread was more desirable than whole meal brown bread—we are not speaking of bread made brown by molasses, etc.—because it was more delicate looking. (This was in an age when delicateness was a great criterion of beauty, and the heroine of the interesting novel was generally "in a decline.") The poor copied the better classes, and thus the demand for the unusual and more expensive caused it to become the usual and least expensive. Now it is necessary to re-create the demand for the less usual and more expensive whole meal bread, when it will become as much cheaper again as it is always better. At present "whole meal" bread, being regarded as a "fad," is made to yield a special revenue to its purveyors, because it is unsual. If Sir Oswald Mosley's campaign succeeds, whole meal bread will again become the staple that it formerly was, and the national stamina will thereby improve and much dentistry be rendered unneces-

sary—a fact that dentists themselves, with a public spirit that cannot be too highly commended, have for years insisted on.

The dangers of injections of insoluble preparations of mercury in syphilis are occupying more attention in Europe than America. Not only are many local abscesses known though not reported, but cases of poisoning are alarmingly frequent and it is now said that many deaths have been due to the "grey-oil" so popular in France. These accusations against the new method should start a reaction by the conservatives to the end that we will not abandon the methods known by nearly a century of experience to be safe as well as sure. Progress must not be jeopardized by running after false gods, and if we are not more careful in the future we cannot expect to retain public confidence. These sad revelations should sober down our enthusiasm for everything new. Until the new is proved to be better than the old, it must be considered a stranger without credentials, and we can assume that attitude without the old disgraceful method of denying good in any strange or new thing.

The dangers of the new preparations of arsenic are also coming in for more or less severe handling. It is now found that when injected in large doses they have been followed by optic atrophy. If this is a constant danger of the new cure for syphilis, we will be glad to return to safer and more conservative methods. These untoward results are the more to be regretted if it is true that nothing has been gained which cannot be obtained from Fowler's solution—as it is claimed. The whole subject is such a sad episode that we would like to ignore it, but we must not allow the new pharmacy to run riot no matter how much good it has done. Indeed we are so dependent upon it that our work would be seriously handicapped were it to injure itself by unchecked enthusiasm. The whole truth should be published before we admit any new remedy to our therapeutic family.

The opium situation in the Orient has reached a point where the medical profession must step in with some very definite information as to the effect of small amounts of the drug on Asiatic races. The international conferences called with a view of ending the cultivation of the poppy and the sale of opium except for medicinal purposes, have been seriously hampered by the very natural slowness of those States now receiving a large income from the traffic and which would be compelled to recast their financial systems at the risk of great social and business disturbances. These are weighty matters and cannot be lightly swept aside by a desire to prevent the harm done by the excessive use of opium. Unfortunately these reasons are concealed and reliance is placed upon the opinion of many experienced physicians that the vast majority of oriental opium smokers are so nervously constituted that they are not appreciably harmed by the habit but derive the same benefit from it as we do from coffee, and that only a small percentage use it in harmful amounts. We have often mentioned the smuggling which grows up where importation is prohibited and also the passive resistance of Chinese officials, so that the matter of prohibition is much more complicated than first thought, in spite of the optimistic reports now and then coming out of China. What we must settle now is whether the game is worth the candle and whether we will not do

more harm than good by the crusade. To this end we must investigate the matter far more extensively to determine whether the above medical opinions are really based on facts. So far, the world has had only the opinions; now let us have the facts which we should have had first. Future conferences must arrange for proper scientific studies. Their past refusal has given the impression that they are afraid the facts will show the whole crusade to be hysterical and due to misinformation as to the actual amount of harm. Here is a field for our pharmacologists and they cannot cultivate it here except to a slight extent in the "Chinatown" of the big cities and perhaps not there. The European physicians in the Orient must enlighten us as to what opium really does do to Asiatics.

A "Lucid" Parallel.— In the June issue of AMERICAN MEDICINE there appeared some interesting comments by Dr. Howard Crutcher of Roswell, New Mexico, on the subject of appendicitis and the necessity for early operation. Evidently Dr. Crutcher's remarks were highly approved of, for we not only received several commendatory letters, but lo, we find that they struck such a responsive chord in one doctor's mind that he appropriated them to his own uses. The parallel herewith tells its own story.

Dr. Crutcher's statement:

Why can we not treat the appendix, as we generally treat other things, strictly on a basis of facts? In other words, believe what we see and not be misled by irrelevant things? Several years ago I operated on a case of acute appendicitis in a man who was confined to his bed with a broken leg.

As much as we have learned about appendicitis, we have yet to learn that we ought to treat it precisely as we treat cancer. To wait for the development of "clinical symptoms" is to trifle with death and defy the plainest teachings of overwhelming experience. When a host of our ablest surgeons, whose experience covers many thousands of cases tell us that the actual pathology of the appendix is not reflected by the symptoms of the patient, why should the general practitioner presume upon a limited degree of good fortune, often mistaken for skill, and decide offhand what class of cases is operable, and what class not?

Appendicitis may occur anywhere, any time, in anybody who has an appendix. There is but one cure, namely operation, not when peritonitis has developed, but long before the infection has passed beyond control. Some laymen and a good many physicians "dread operation," having in mind operations performed under conditions which they do their best to perpetuate. We are deeply indebted to Fowler, Murphy, Ochsner and others for their thoroughgoing studies of the treatment of peritonitis, but the whole of it is along the wrong lines: one fire-proof building is worth a dozen fire engines. My belief is that within a few years the man who trifles with a case of appendicitis will be classed with the one who applies a greasy nostrum to a mammary cancer.

Dr. M. M. Lucid, Cortland, N. Y., "Original discussion of Dr. Deaver's article on Appendicitis in Childhood. from A. M. A., Dec. 24, 1910, p. 2204.

Why can we not treat appendicitis as we generally treat other things, strictly on a basis of facts? In other words, why not believe what we see and strive to be prepared to read the handwriting on the wall —on the inside of the abdominal wall—from external manifestations, and not be misled by irrelevant symptoms? It has been my experience as well as that of several surgeons to operate on patients with acute, progressive appendicitis who were ill in bed with other unassociated ailments.

Much as we have learned about appendicitis, we have yet to learn that we ought to treat it precisely as we treat cancer, that is, as a local disease. To wait for the development of constitutional symptoms, such as elevation of temperature, increased frequency of pulse, with high tension—the development of tympanites, etc., is to trifle with death in defiance of the plainest teaching of experienced surgeons. Our ablest surgeons, whose experience covers many thousand cases, tell us that the actual pathology of the appendix is not reflected by the symptoms of the patient. Why then should the general practitioner presume on a limited degree of good fortune, often mistaken for skill, decide offhand what cases are operable and what inoperable, without recourse to a surgical consultation? Meanwhile let it be admitted that good medical treatment is far preferable to poor surgical treatment.

Appendicitis may occur in any section of the country, at any time, and in any individual. There is but one treatment for a progressive case of appendicitis, namely, operation, not when fulminating peritonitis has developed, but long before the deadly infection has passed beyond control.

Some laymen, and many physicians "dread onerations" performed too late and under conditions which they do their best to perpetuate. They do not recommend operation except as a last resort, life or death—unfortunately, such patients usually have both operation and death. We are deeply indebted to Morris, Fowler, Ochsner, Murphy, the Mayos, and a score of others, for their thoroughgoing studies of the treatment of peritonitis. Surgical prophylaxis is the watchword for the early treatment of suppurative peritonitis—just as one fireproof building is worth a dozen fire engines. It is fair to assume that within a few years, the man who trifles with a case of progressive appendicitis will be classed with the one who applies a greasy nostrum to a mammary cancer.

The situation hardly needs any comment. A professional man who will appropriate another's words and ideas, and publish them broadcast without giving due and proper credit, deserves little respect or consideration. We extend our sympathies to our esteemed contemporary, the *Journal of the American Medical Association,* and sincerely regret that it should have been made the innocent victim of such an imposition.

The technic of medicine bids fair to become as important in the medical treatment of disease as surgical technic is in the surgical. This thought is suggested particularly by study of the directions that have been given not only for the pharmacologic preparation of the Ehrlich-Hata remedy but also for its actual administration to human beings. Surely no novice should undertake the use of a remedy, the results from which are so dependent on the technic of its employment, or which is so fraught with harm if improperly or erroneously used. The same holds true concerning not a few of our other modern remedies. Take for instance the use of the recently developed bacterial vaccines. Without a thorough grasp of the details involved in the general employment of these potent measures and the acquirement of real skill in their actual application in combatting the various specific infections, success is not only improbable but quite if not wholly impossible. More than this, while the ignorant use of any potent drug or remedy is always attended by more or less danger, the administration of these new therapeutic agents is infinitely more so because of the greater harm that may be done. They are indeed two-edged tools, and as potent for harm as they are for good if carelessly or wrongly used.

The foregoing in addition to its immediate reference to certain recent remedies, cannot fail to emphasize the growing importance of technic not only in the use of the special remedies, like antitoxin and the other sera but even in the administration of the simpler drugs like quinine, strychnine, iron, the organic products and so on ad infinitum. It is a well known fact that the action of a remedy is often modified by its method of administration, i. e., its relative dosage—as for instance small doses oft repeated, or larger doses at longer intervals—its introduction before or after eating, its administration at bedtime on retiring, or in conjunction with synergistic drugs or measures. With these facts so evident, the wonder is that the subject has received so little attention. Beyond all doubt, the superior results that some physicians invariably secure can be attributed as much to the way they use their remedies as to their selection. To a certain extent this is no new idea and doubtless few physicians would deny that while successful therapeutics calls for the intelligent selection of a remedy, its method of use is often of equal importance. But in the multiplication of new remedies and the search for specifics, the technic of medication has been sadly neglected, a matter for sincere regret. With the advent, however, of new forms of treatment requiring extraordinary care and skill for their safe and effective use, there is bound to be an awakening to the great importance of method. Not the least of the benefits of the new therapeutic agents that are calling for recognition will come therefore from the increased study and thought that must be given to technic. There can be no question that this will mean much to the modern treatment of disease, and lead to vastly

improved results. But what is of especial promise is the material improvement in professional prestige sure to accrue from the development of medical technic. With the exaltation of method and skill in the application of medicines the capable physician is going to enjoy some of the rewards that hitherto the capable surgeon has monopolized. As in surgery, the increased ability and effort required will tend to eliminate a good many, but since it is but the working out of the old law of the survival of the fittest no one can complain. It is almost axiomatic that medical progress must lead to greater efficiency, and if the development of these new remedies by requiring greater technical skill for their use, will add to the prestige and importance of medical treatment, they will be welcome indeed.

Synesthesia is not a matter of much practical importance but it is highly interesting to say the least. It is that curious phenomenon of the overflow of sensations so that air waves, for instance, give a sensation of color as well as sound. It seems that through some defect of development the cortical centers are not insulated from each other completely, so that a stimulus received from the retina, say, is not confined to the visual centres but affects adjoining ganglia. The commonest form is colored hearing, and most of the cases of synesthesia investigated up to a few years ago were of this type. No two were alike, that is, the same sound would cause different colors or shadings in the different cases; a locomotive whistle would be yellow to one, or white to another and so on. Moreover, in some cases only a few sounds are colored, such as the tones of a piano from black in the bass to white in the upper keys with a spectrum in between. In other cases every sound has a light sensation added to it. Then there are cases in which colors or odors give sound sensations—glaring colors being loud, literally as well as figuratively, and of course there must be an infinite variety of mixtures of the other sensations. The most distressing cases are those in which there is an actual confusion of sensations, so that odors and tastes and sounds are not differentiated. No doubt these abnormalities are at the basis of many delusions and hallucinations of the insane.

The nervous instability of synesthesics is the practical side of this subject. Without an exception, the cases present evidences indicating considerable nervous involvement, in the way of abnormal development. Some if not most of them are highly intelligent though incapable of that hard work necessary for success, and all are very sensitive to irritations which the average man ignores. Perhaps the condition is far more common than we imagine, and it would be well to keep it in mind in the treatment of neurasthenics. We might find that they are great sufferers from jarring sensations, not in the way usually thought of, but in these overflows to other centres. A normal woman may be made actually ill by garish colors or coarsely arranged music, and we all know the bad effects of certain tastes and odors; how much more suffering there must be in synesthesics where the irritant affects more than one center. Of course the cases are so few in number that the general practitioner rarely if ever sees them, but he is liable to have milder borderland types in which a little attention to aesthetics may make all the difference between success and failure in treatment. Perhaps an artistic strain in the physician's mental make-up is a good thing.

MEN AND AFFAIRS.

Modern Literature and the Borderlands of Indecency.— In Ropes of Sand, Edgar Saltus's story in the February *Ainslee's,* the author has returned to the extremely disagreeable topic of incest upon which to hang his plot. As Sir Arthur Conan Doyle has said, this sort of thing is not clever; the difficulty lies in not being salacious. Some of the epigrams are smart, but a speech is put into the mouth of an old lady that would hardly be considered funny outside of a second class club. We venture to say that this story is unique in the history of the publishing house of Street and Smith.

The Wiles of the Quacks.— The February month end issue of the *Popular Magazine* has a stirring short story in The King of the Pan Gap, by Francis Lynde. The Ghost Shop, by Dr. (?) Rupert Hughes, begins a gruesome yet amusing account of the criminal wiles of the spiritualists concerning which we have had something to say in these columns. We believe that physicians should familiarize themselves with the methods of quacks of all kinds, especially with such tricks as making a diagnosis without touching or speaking to the patient. If they are able to duplicate and thus expose these performances, they can do much to minimize the influence of mystical quackery on uneducated minds. There are books published which explain these matters, and, in the larger towns, a few dollars invested in a short course of instruction by a professional conjuror will not be regretted.

The Value of Special Diversions.— Speaking of conjuring, the allied art of juggling is one of the most amusing and valuable of diversions, especially to the sedentary. Many physicians become extremely expert in juggling, but it is to their patients that it is most useful. The bedridden, if they retain the use of the hands, may beguile many a weary hour in learning to keep three or four tennis balls in the air at once, and in balancing sticks and other simple objects on the forefinger or on the chin. For the brainworker, who does not care for walking, there is no better recreation. It has often occurred to us that in cases where there is any reason to fear some form of paralysis, the educating of disused cerebral, cerebellar, and spinal centres by the rapid and complex movements required in juggling might serve to act as an efficient preventive.

It is beginning to be recognized that an adult who can not use the hands in some way outside of the routine and necessary daily movements has not a completely educated brain. Who has not envied the "handy man" as he flits about the house, mending here and reshaping there, and saving many a dollar of the household money? Not every boy, however, takes kindly to tools, and still fewer show any ability that would warrant the expense of a course on some musical instrument, but they are scarce indeed who will not eagerly learn a "stunt" of some kind. The training of the hand and eye may be easily carried out in this way and prove valuable later in life. We do not wish to claim too much for manual education of this kind, but we may point out that it tends to perfect nervous poise and that no juggling trick can be properly done if the performer indulges in dissipation even so mild as beer and cigarettes. Juggling is certainly superior to pyramid pool, with its vulgar associations, that is such a popular pastime with the youths of the smaller towns.

The Child's Welfare Exhibit just closed in the Seventy-first Regiment's Armory was so successful, it is pleasing to know, as to warrant its reproduction in Brooklyn and some of the larger cities. It does not speak well for the metropolis that with the exception of children committed to the S. P. C. C., none is examined medically and psychopathically in the New York Children's Court, which for that and some other reasons has been adjudged the poorest in the United States. The exhibits of dyed and adulterated foods were striking and painful, and of the methods for falsifying weights, but reform will be delayed until each housekeeper learns to read labels and to reweigh goods on delivery. It is perplexing to learn from the March *Good Housekeeping* that it is difficult to find in the shops and department stores certified scales *for domestic use.* At first sight such a condition seems to point to an incredible plot into which enter all wholesale and retail dealers in foods together with the manufacturers of weighing appliances.

"Errors" of Refraction.—Notwithstanding its great importance to ophthalmologists and to the physicians who estimate refraction in their patients for the purpose of accurate diagnosis we cannot reprint an article by Algernon Tassin in the February *Good Housekeeping* on account of its length. We urge those interested, however, to read "Why Our Glasses Don't Fit." Mr. Tassin avers that the trial lenses in many an oculist's case are wrongly numbered, the error often extending as high as five degrees. We have heard, but we know nothing of the truth of the accusation, that this or a similar article was offered to a trade optical journal, but was declined. Obviously it becomes the part of duty and common sense for every ophthalmologist to possess an accurate lens testing apparatus. It is a frequent slur heard among "optometrists" that oculists are inferior refractionists; if there is any truth in this accusation, which is most improbable to be sure, here is a partial explanation.

Can they "Come Back?"—After the tremendous crusade led against patent medicines some years ago by *Collier's Weekly* and *The Ladies' Home Journal,* there was a general scurrying to cover by the quarry and a grand and imposing housecleaning by the magazines. After a skirmish line of hair tonics and the like was tentatively thrown out, without eliciting any fusilade, the rank and file of the patent rubbish has gradually wormed its way back into some of the weaker publications. There are no fewer than thirty-two frankly quackish advertisements in one of the March magazines, including one of the villainous "cancer cured without the knife" kind. Nearly all of them are faith cures under one disguise or another, including, or perhaps we should say especially, the hair growers. We are greatly in favor of an extra heavy postal rate on the advertising pages of magazines that carry this class of advertising.

A Grand Old Physician.—Every New York physician would like to have been present at the dinner given at the Plaza Hotel on February 18th to Dr. Stephen Smith, once head of the Board of Health and the Department of Charities, and now 88 years of age. There is no better loved doctor in the land. In his after dinner speech Dr. Smith told of his plan to save

the city many millions of dollars bv farming out the insane, making them self-supporting, and how he found he had innocently suggested the abolition of one of the richest of political grafts and was therefore promptly removed. Dr. Smith also spoke jokingly of some of the advantages of old age; nobody cared whether his shoes were brushed or his necktie was on straight; and people actually surrendered seats to him in the street cars. Despite the doctor, however, it is not to every old man that this courtesy is extended, but only to one who wears an honestly acquired air of dignity, wisdom and benevolence.

Teaching the Lay Public Physiology and Anatomy.— Professor Frederic S. Lee, in opening the course of Jesup lectures at the Museum of Natural History, urged upon his audience the necessity of the universal teaching of physiology and elementary anatomy. Physicians should see that this study is properly taught in the schools near them; they should embrace any opportunity to deliver popular lectures on the subject; for it is only thus that eventually the most dangerous forms of quackery shall be driven out. All superstitions have their roots in ignorance, and quackery, especially the kind that ignores the real existence of bacteria and bacilli, has flourished solely because of the vast and comprehensive ignorance of mankind concerning what one might justifiably suppose was the most important to it of all subjects.

Starvation.— There is apparently a good deal of difference between starving for fun, as Upton Sinclair has been describing it lately, under which circumstances it cures all manner of pains and aches, and starving when you cannot help yourself, which was the kind experienced near the North Pole by Lieutenant A. W. Greely, as portrayed by Frank Barclay Copley in a series of articles in the *American Magazine;* starving without an audience or expectation of magazine readers seems to be about the limit of human suffering.

A new form of sore throat of unusual severity made its appearannce recently in certain parts of England. Salford, near Manchester, particularly suffered from it, and many cases have been seen also in the West End of London. There is great pain and dryness, and often much swelling, but the appearance is not of an inflammatory character, nor is there any exudation. The prostration, however, is severe, and the patient feels very sick indeed. But the curious point is, that it is attended with but little or no fever. It appears to be highly contagious, sometimes running through entire families. No mention appears showing whether the Klebs-Loeffler bacillus has been found, but one can hardly imagine it has not been. Diphtheria has recently been added to typhoid as a disease that is probably spread by carriers. On the other hand, it seems possible that it may be an unusual manifestation of the influenza bacillus, which at this period is apt to be very active. The unusual prostration, out of all proportion to the local condition, seems to point that way. Intestinal influenza is a well recognized type. Is it possible that in the present instance the bacillus has been able, by some condition of environment, to get to work at once, without the necessary incubation period in the body, so that its local manifestations appear at the time of its first lodgement? It would be of interest to know whether any similar cases have been observed in this country, and if so under what conditions.

ORIGINAL ARTICLES.

THE WEST COAST OF NORWAY FOR HEALTH AND RECREATION.

BY

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For the town dweller, the tourist familiar with beaten paths in Europe, and the jaded victim of the strenuous life, as well as for the nature lover, the artist, the pedestrian and the sportsman, Norway is a land of new delights, satisfying at once to the most ardent imagination, and sure to stir even a sordid and routine existence to renewed enthusiasm and fresh appreciation of the charm of outdoor life. Nowhere are there such striking contrasts of scenic beauty as are to be found in the wonderful fjord country of the west coast, a vast mountainous region abounding in inland seas, rocky islands and winding estuaries, lofty snow-crowned peaks, splendid glaciers, foaming cataracts falling from the tops of sombre precipices, fragrant pine forests, transparent, rushing rivers, and cold, sparkling lakes teeming with salmon and trout. This ideal land for a midsummer holiday, a three days' driving trip from Christiania, or until recently to be reached only by an uncomfortable journey across the North Sea, has now been made easily accessible by the recent completion of the railway from Christiania to Bergen. The trip from the east to the west coast may now be made in fourteen hours, but the lover of Norway will never concede that the hurried excursion over the new railway can equal in any respect the old tourist routes by carriole or stolkjaerre over the Valdres, Telemarken, or Gudbrandsdal. The railway is a foe to



ON THE SOGNE AT BALHOLM.

intimate knowledge of the country, and that friendly contact with the life of the people of which the tourist should try to see all he can.

The western littoral of Norway extends for more than three hundred miles into the arctic zone through thirteen degrees of latitude, about one-third of the entire region lying in the realm of the midnight sun. As far south as Trondhjem there is broad daylight at midnight from May with its warm current from the south, imparting a mild climate which makes possible the paradox of roses in full bloom, fields of yellow grain, and ripening cherries and strawberries at the foot of glacier clad mountains. The excellent harbors of the fjords are never frozen over, and in and about Bergen, the natural center and metropolis of the fjord country, whence may easily be visited the Hardanger, Sogne and Nord fjords with their tribu-



THE GLACIERS OF FJAERLAND.

23rd to July 20th. In winter there is the other extreme, and on Trondhjem's shortest day the sun rises at ten in the morning and sets at half past two in the afternoon. In the latitude of Greenland and Iceland, the Scandinavian peninsula would be arctic in its intense cold and would be almost uninhabitable, were it not for the mollifying influence of the Gulf Stream which, like the great conduit of a hot water heating system bathes the shores of Norway taries the finest in the country, the summer is comparatively long, lasting nearly four months. The thermometer sometimes rises to 86° F., and the mean summer temperature varies from 54½° to 61° F. It is thus apparent that for travel in Norway even in summer, warm clothing is useful, and one's usual winter garments including woolen underwear, may be worn with comfort. Strong, well fitting shoes are necessary for the mountain roads, and

a rubber cape or waterproof coat is indispensable for walking and driving, as showers are frequent even in the finest weather.

Storms, however, are extremely rare, the wind seldom blowing in the mountain passes and fjords to exceed a velocity of two miles an hour. The prevailing winds in summer are gentle sea breezes, and thunder and lightning are most unusual. On the coast the rainfall is excessive, Bergen having an annual average of 75.5 inches. It is often said that the horses in the Bergen streets will shy at a passerby without an umbrella. In the interior the precipitation is much less and there are very few foggy days in the fjords. Bracing and invigorating, swept from the glaciers and eternal fields of snow, laden with the ozone and balsamic incense of the pine and spruce forests, and salt with the spray of the sea, nothing can be finer for the invalid and health seeker than the tonic properties of the air. Malaria is absolutely unknown. The dustless atmosphere, the brilliant sunshine of the long summer days, and the restful quiet broken only by the cry of a sea gull or the murmur of a distant waterfall, make conditions favorable for convalescence from most acute diseases, and for such functional disorders as anaemia and nervous exhaustion.



THE GEIRANGER FJORD.

There are numerous so-called sanatoria in healthful locations in the mountains

and forests, which are for the most part frequented by well people, as there does not appear to be a sufficient invalid population to support them. They are generally without medical supervision and are simply large, well conducted boarding houses. In a few places the ancient *badestuer* are still with concentrated extract of the stinging jelly fish (Medusa aurita) is employed. Gytjen or peat baths, mud poultices and pine needle baths are other popular modes of treatment, and at several of these institutions there are excellent modern inhalatoria.



A RADIANT VALLEY.

to be found, timber rooms in which a primitive Russian bath may be taken in the vapor of steam obtained by pouring water on red hot stones. There are modern, well equipped bathing establishments at the sulphur springs of Sandefjord and Larvik, and chalybeate waters are to be had at Modum and Eidsvold. For neuralgic, rheumatic and paralytic conditions, friction

Norway has the lowest death rate, 13.5 a thousand, of any nation and its conditions are most favorable to both extremes of life. Military statistics show that the Norwegians are the tallest and have the best developed chests of any people in Europe. No other country has so low an infant mortality, and nowhere is the expectation of life so long, after the age of fifty. But

one-twelfth of the entire area of the country is under cultivation. There is thus plenty of room for the people, no overcrowding, no excessive wealth, no great cities, and little squalid poverty. Norway is preeminently the land of the simple life for there is no other. It is doubtless the plain frugal fare, abstinence from alcohol, and the outdoor life in the forests and fields, and on the sea which make this high average of health and longevity possible. There



"Done with indoor complaints, libraries, querulous criticisms,
Strong and content I travel the open road."
—*Walt Whitman.*

are numerous octogenarians in Western Norway with few of the infirmities of age and the arterial degenerations of senescence are delayed longer here than elsewhere.

Most American tourists will return to their homes improved in mind and body for a period of enforced, plain living from which there is no escape in rural Norway. There are no luxurious hotels. No hardship, however, is involved in sleeping in a bedroom with bare wooden walls and floor, the latter often strewn with fragrant hemlock twigs, for the beds are invariably comfortable and clean. The food is generally of good quality and wholesome, but quite different from what one is accustomed to in other parts of Europe. There is an abundance of excellent fresh fish which is well cooked in appetizing ways. Boiled salmon is frequently served cold with a piquant, sour cream sauce. Fish pudding and *gjedost,* a brown, sweetish cheese made from goat's milk, are national dishes. Lobskaus, a kind of hash, reindeer meat, ptarmigan, and *fladbröd,* an unleavened bread baked in great circular sheets as thin as paper, are encountered in every inn. Beefsteak is always served in small pieces with onions—*med lök,* and potatoes are invariably boiled. Peas are

cooked and served with the pods. The Norwegian housewife understands the art of preparing all the old-fashioned kinds of jams, marmalades, and jellies, and her preserved fruits, custards, sago, rice and gelatin puddings with caramel and fruit sauces will please the most fastidious taste. For breakfast and supper (dinner is always a midday meal), there is also on every hotel table a bewildering variety of cold dishes, cheese, sliced meats and sausages, anchovies, shrimps, sardines, pickled fish, insipid yellow, seedy fruit, multabaer, which grows in marshy places and must be an acquired taste. Chickens are athletic, dry, and muscular, and the mutton is tough and stringy with a wooly flavor, probably due to the activity of the sheep in foraging for food on the meagre, mountain pastures. What one misses most are good butcher's meat, fresh fruits, and green vegetables. Norway should import a few Italian or Dutch gardeners to teach the farmers how to grow salads and garden vegetables.



IN THE JOTUNHEIM.

caviar, and many kinds of bread with sweet, unsalted butter. Cold fried eggs are also a favorite on the coast. In the mountains eggs are scarce. The grandmother of a skyds driver during her long lifetime had heard of them but had never seen one. Small fruits including strawberries, cherries, raspberries, wild cranberries, currants, and blueberries are to be had in season, and the Norwegians are inordinately fond of an

There is recreation to appeal to all tastes in the many and varied attractions of the country. The reaches of the fjords and protected channels within the skjaergard or labyrinth of islands, more than 150,000 in number, which guard the coast, make these waters a favorite resort for the yachtsman, and the fisherman blessed with an abundance of this world's goods may indulge himself in the *de luxe* sport of fly casting

for salmon, that gamy aristocrat of the Norwegian rivers. One may pay as much as five hundred dollars a month for the exclusive rights of a good salmon stream. Or excellent trout fishing may be had at a very modest price by the humbler disciple of Izaak Walton, and the plebeian mackerel, cod, whiting and flounder are plentiful in the fjords and are to be had for the taking. At Finse and several other high lying stations on the new railway a taste of skiing, the national winter sport, may be enjoyed even in midsummer. A camera, or better a box of water colors for one who can sketch a little, is a good companion on one's rambles over picturesque paths. The fine mountain roads are unsurpassed for bicycling and walking excursions, which may be taken at all hours in the enduring light of the northern summer. There is something spectral and almost uncanny in these strange, blue white, crepuscular nights which little tend to promote sleep, even the hens do not go to roost, and it is not surprising that the eager tourist in a state of wakeful excitement is bewitched and not infrequently neglects to take sufficient rest. Bedroom windows are usually provided with dark green shades by which the unseasonable light may be excluded, but a sedative or mild hypnotic is sometimes necessary to obtain sleep.



ON SKIS.

The profusion of wild flowers and interesting plant forms make an inviting field for the botanist and he will find many survivals of arctic types as well as numerous representatives of the more familiar Alpine flora of Switzerland. In June under the influence of the warm summer sun the whole countryside bursts into a blaze and riot of color, green, red, blue, yellow and purple, surpassing the imagination of the most impressionistic painter. The roadsides and sod roofs of the log houses at this time become veritable flower gardens, blooming with brier rose, harebells, heartsease, anemone, starflowers, gentians and heather. Digitalis and aconite, well known medicinal plants grow on every mountainside, the splendid magenta spikes of the former on the lower slopes, the latter higher up among the birch and mountain ash. In the shade of moist rocky glades are found gorgeous saxifrages, and among the ground pine and woodland mosses, the delicate, sweet smelling Linnea rears its graceful head, named after Linnaeus, and perhaps the most prized of all Norway's wild flowers.

For the amateur geologist the eruptive rock formations belonging to the most ancient periods, the evidences of glacial action and river erosion—forces much in evidence at the present day, the curiously scored peaks and fantastic pinnacles of the mountain tops, and the sculptured basins of the streams, will possess the greatest interest.



A FARM IN THE GUDBRANDSDAL.

Mountain climbing is a temptation which should be indulged in only by the young and vigorous who are accustomed to it. Difficult ascents should never be attempted by one with the slightest heart weakness, or who is not in the best physical condition. Snow covered crevasses, avalanches, and insecure cornices or ledges of ice are real

perils for the inexperienced. In the Söndmöre district the tale is told of an amateur and foolhardy climber cutting steps with his axe who made a hole in the frozen surface which supported him, and saw with a thrill of horror half a mile under his feet, the spire of a church and a tingling glow following a morning dip is a most exhilarating preparation for the long Norwegian day. Rowing is a good exercise in the heavy native boats, built to be buffeted about in the rough waters of the northern winter. Sailing in small craft is dangerous on account of sudden



A MODERN VIKING.

smiling landscape of verdant fields dotted with peasant cottages. He lost no time in escaping from his hazardous position on the thin bridge of ice and thereafter did as he was told and remained with the guides.

The waters of the fjords, the temperature of which rarely rises above 70° F. afford excellent still water bathing. The squalls and unexpected puffs of wind which sweep down upon the fjords from the mountains.

For the sedentary traveller or invalid unfitted for much active exertion, many agreeable hours may be spent on the deck of a steamer, winding in and out of the endless channels among the islands, or

driving in a caleche or stolkjaerre up and down the diagonal stretches of roadway amid such superb landscapes as are to be found over the Grotlid route, in the Norangsdal, or along the approaches to Videsaeter, Merok, Gudvangen, and Myrdal. There are nearly as many Norwegians in the United States as in Norway, and English is so generally spoken that one has little difficulty in making himself understood even in the remotest valleys. The tourist of a studious turn of mind will, however, find a profitable source of entertainment and instruction in the study of the Norwegian language, a reading knowledge of which may be acquired without much effort, or he may enjoy the dramatic masterpieces of Ibsen, and the stories of Björnsen, Kielland, Lie, and Hamsun in translation. Norse mythology, antiquities and folklore, the fabled exploits of the gods and giants, the traditions of trolls and fairies, the adventures of heroes and Vikings, and the history of mediaeval kings as told in the sagas and ancient legends invest the whole of Norway with romantic and poetic charm. Although the greatest interest of the west coast lies in the grandeur of its natural beauty almost untouched by the hand of man, this region is not without its monuments. The beautiful cathedral at Trondhjem, the ancient church at Stavanger, and the stave kirker of Borgund, Fantoft and Vik in the Sogne, are well worth a visit. It is difficult to realize that Norway is an old country, so little trace of her ancient civilization and culture has been left upon the face of the country, yet these buildings go back to the tenth, eleventh and twelfth centuries.



GOATHERDS.

The Norwegians are a courteous, honest people, intensely democratic and independent, reminding one strongly of the best type of American farmer of a generation

ago, when our rural population was homogeneous and uninfluenced by modern agricultural machinery and the stream of immigration from southern and eastern Europe. In Norway each farm is a little, patriarchal community in itself, where the women spin and weave, milk the cows, make butter and cheese, grind the corn and bake the bread. The farmer is his own carpenter and blacksmith, and is frequently a sailor and fisherman as well. There was pointed out to me on a lonely mountain side a prominent member of the Storthing, or National Assembly, which decided on the recent separation from Sweden, who Cincinnatus like, was tilling his fields with his own hands. The middle aged traveller from Maine, New Hampshire, or Vermont will find many of the scenes of New England farm life, reminiscent of his childhood, here strangely reproduced in a different setting.

The population of the west coast is more vivacious, quicker tempered, more energetic and venturesome than the slower going, conservative Teutonic stock of the east country. This is probably due to an admixture of a Celtic strain, the survival of the ancient days when western Norway had intimate commercial and political relations with Scotland and Ireland. Names of places and persons are often the same and the tourist who has spent hours over a map arranging his itinerary is astonished to find on his arrival at Faleide, Visnaes or Fretheim, that these euphonious and well remembered proper names are not only geographically important, but that they



A BIT OF RUSTIC ARCHITECTURE. A STABUR.

have become personified and transmuted into living men and women. Hans Faleide may carry your luggage to your room, his wife may cook you an excellent supper which will be attractively served by his handsome golden-haired daughter, Sigrid Faleide or her younger sister, blonde, blue-eyed Ingeborg. Ole Visnaes will row you across the fjord and Knud Fretheim will drive your stolkjaerre to the next posting station. There are a gravity, dignity, and self respect about the humblest and poorest Norwegians which comport well with their stately mountains and sombre valleys, and which contrast favorably with the mixture of fawning servility and insolent greed so often met with in other countries frequented by tourists. Here are no outstretched palms and rapacious finger tips. There is no beggary, or extortion practiced on the traveller, who is glad to bestow the modest *drikkepenge* for which more than the equivalent is received in willing, friendly attentions.

The idyllic life of the peasant is, however, rapidly disappearing before the invasion of ultra-modern ideas, the younger generation is no longer satisfied to abide in the old ways and remain on the farmstead, the seeds of ambition and discontent are sown, and both boys and girls look with longing eyes to distant America which is to them the land of opportunity and fortune. When once in the United States the emigrant is lost to his native land, and in some cases it is feared there remains even little enduring sentiment for the old home. This regrettable point of view was well shown in a young Norwegian who had returned for a visit. Flushed by material success, he was full of admiration for the United States, and was impatient to get back to Minnesota. But, it was said, there are no such mountains and noble landscapes in Minnesota as here in your native valley. "Norway," he replied, with some scorn, "is like a beautiful mother who has no bread for her children." There are few lines in Ibsen more bitter than this.

Norway, however, in her newly attained independence is destined for an era of greater prosperity, and has already achieved a high position among the small countries of Europe, happily excluded from the troubled currents of international politics, and great ambitions, to serve as parks and playgrounds for the world. For several years the west coast has been the resort for an annual cruise of the German Emperor, every summer Christiania is visited by the royal family of England, and in the fjords may frequently be seen the yacht of Eugénie, the unfortunate ex-empress of the French, a frail link between the present and a remote past, in her old age and obscurity almost as dim an historical figure as Josephine or Marie Louise. In a solitary mountain path one may meet a king or a queen glad to put aside ceremony and enjoy *incognito* the simple, wholesome pleasures of this holiday land.

For the American tourist, if he take the direct line of steamers from New York to Christiania, the route from the start is unusual. One is carried far to the north of the ordinary transatlantic highways to the bleak coast of the north of Scotland, through the swirling current of Pentland Firth between Cape Wrath and the Orkney Islands into the North Sea, and on the tenth day out the long undulating outline of the gray and purple rocks of the Norwegian coast is sighted. A three weeks' tour among the fjords of the west country will always be a delightful memory, and once initiated the discriminating traveller will desire to re-

turn for a longer stay. Western Norway is an excellent place for physicians to send patients seeking the benefits of travel, and is equally good for the over-worked doctor himself, who so frequently needs the rest and change he advises for others.

303 Amsterdam Ave.

SOME REMARKS ON THE LEGAL OBLIGATIONS OF PHYSICIANS.

BY

HON. JOS. I. GREEN,

New York, N. Y.

I am aware of no greater, sacred relationship than that which exists between physician and patient; not even the relationship between the minister and his flock, or the lawyer and his client can compare with yours. The one affects the somewhat hazy future and salvation of the soul, the other affects the materialistic essence of the present, while yours by the preservation of the health of manhood, makes possible the full enjoyment of the idea of the future life and the pleasures of worldly goods, in the here and now.

More than that, by necessity, you are made the repository of manifold secrets, secrets that could disrupt and sever the social ties of the nation. By their revelation you could set brother against brother, sister against sister, husband against wife, and destroy all the ties of love, of fireside, of family and of home, but to the credit of your profession be it said, charge you with what they may, the confidence of the public in your honor and integrity has been worthily entrusted, and their secrets locked safely within the bosoms of Men.

Now gentlemen, I assume that one of the very first thoughts occurring to a doctor upon his entrance to the practice of his profession, is not alone the moral responsibility for the life of his patient, but as well what responsibility is imposed by law to safeguard the proper performance of his duties. This suggestion has warranted me in presenting to you the legal phase of that question for I feel justified in saying that my experience with doctors, shows that few of them are really aware to what degree of care, in a legal sense they are held by law.

Of ccurse, it is self-evident that you are neither insurers of the life or limb of your patient, nor are you held to a guarantee of cure. You are simply held to a degree of reasonable care in the performance of your duties. I know there is one nightmare which is ever present with a doctor, no matter how high his position, or how low his station. The higher his reputation, the lower his fall; no matter how low his station, he fears he cannot rise; and no matter how able or careful he may be, that nightmare is ever present like the sword of Damocles, hanging over the guilty and the innocent alike. That nightmare is the action for negligence in the performance of duty, commonly called an action for malpractice.

I believe I can offer to you a "bromide" to-night by the citation of the most recent expression of the Court of Appeals upon the subject and it may be helpful to you in the future.

The Court of Appeals laid down the rule as to what constitutes the law applicable to alleged malpractice as follows:

"The law relating to malpractice is simple and well settled, although not always easy of application. A physician and surgeon, by taking charge of a case, impliedly represents that he possesses, and the law places upon him the duty of possessing, that reasonable degree of learning and skill that is ordinarily possessed by physicians and surgeons in the locality where he practices, and which is ordinarily

regarded by those conversant with the employment as necessary to qualify him to engage in the business of practicing medicine and surgery. Upon consenting to treat a patient, it becomes his duty to use reasonable care and diligence in the exercise of his skill, and the application of his learning to accomplish the purpose for which he was employed. He is under the further obligation to use his best judgment in exercising his skill, and applying his knowledge. The law holds him liable for any injury to his patient, resulting from want of the requisite knowledge and skill, or the omission to exercise reasonable care or the failure to use his best judgment. The rule in relation to learning and skill does not require the surgeon to possess that extraordinary learning and skill which belong only to a few men of rare endowments, but such as is possessed by the average member of the medical profession in good standing. Still, he is bound to keep abreast of the times and a departure from approved methods in general use if it injures the patient will render him liable however good his intentions may have been; the rule of reasonable care and diligence does not require the exercise of the highest possible degree of care, and to render a physician and surgeon liable, it is not enough that there has been a less degree of care than some other medical man might have shown, or less than even he himself might have bestowed, but there must be a want of ordinary and reasonable care, leading to a bad result. This includes not only the diagnosis and treatment, but also the giving of proper instructions to his patient in relation to conduct, exercise and the use of an injured limb. The rule requiring him to use his best judgment does not hold him liable for a mere error of judgment providing he does what he thinks is best after careful examination. His implied engagement with his patient does not guarantee a good result but he promises by implication to use the skill and learning of the average physician, to exercise reasonable care and to exert his best judgment in the effort to bring about a good result.

The physician may be charged however with negligence predicated upon the conduct of the physician or surgeon in doing or performing an act upon a patient which is contrary to the best or established practice of qualified surgeons, in the treatment of such a case under similar circumstances."

This gentlemen is the law, and I trust that this statement of the law may have given you a clear conception of your reciprocal rights and obligations, and now, having given you the standards of defense, it is proper that I proceed to a short discussion of your point of attack.

I presume the most important question affecting the materialistic relations of patient and physician is "who is going to pay?" of course, I know I risk the censure of tactlessness, and indelicacy for even suggesting that such thoughts may possibly arise, when you are called to minister to a suffering human being, but I may even rise to such vaulting thoughtlessness to imagine, that the thought has occurred to at least one of you here to-night. Of course, gentlemen, I speak and refer to the absence of an express contract to pay, for where there is an express contract, the language and understanding of the express contract governs. Ordinarily the husband is liable for the services of a physician rendered to his wife or his children. In the absence or death of the father, the mother would be liable, and where there are infants, that is to say, persons under 21 years of age, without father or mother, the law would imply a contract by way of necessity, or for necessaries furnished. Ordinarily infants cannot make a contract. Such a contract is not void, but voidable at the option of the infant. One of the exceptions would be for the services of a physician or surgeon to an infant, where there is no father or mother, and he would be held in law bound under the doctrine of "necessaries furnished," for medical attendance has been held to be "necessaries" for an infant.

The mention of "who is going to pay?" or rather to state more clearly a legal proposition "who is to be held responsible?" (because I am sure you have discovered that both sentences are not synonymous), is not so easily determined. We have cases where the patient of age calls the doctor for himself; where his wife calls the doctor for the husband; where the wife calls the doctor for the child; where the child of age, and a person

of means calls the doctor for an indigent parent; where a brother of age calls the doctor for his sister, and where the sister being without means and the brother is possessed of financial responsibility; where a mother calls a doctor for her married daughter living with her husband, and the mother having wealth and the son-in-law possessed of none; where a stranger calls a doctor for another and where a good Samaritan undertakes to call a doctor for someone whom he knows. Setting aside the question of moral responsibility you will readily observe that many nice questions of law may arise upon the few instances which I have suggested.

The general rule has been laid down "that a person who is under no obligation to supply medical attendance for another, does not become liable for professional services rendered by a physician, by merely requesting him to attend the patient" and this, even though the person calling be possessed of means and the patient be possessed of none. It has even been held, "that a mother, a very rich woman, asking a physician of high repute to attend her married daughter, with the acquiescence of the daughter's husband, who was a poor man, does not become liable for the services rendered, in the absence of an express agreement to pay on her part." And this, even though the daughter was brought from her husband's home to the home of the mother where the professional services were performed. The theory of the law being, that in the absence of express agreement, the husband and not the mother was liable at law.

The court in a case where a father requested his physician to attend his son, then of full age, but lying sick at the father's house, said that raised no implied promise on the part of the father to pay for the services rendered; "that a physician attends in every case on request"; that fact alone is not sufficient for the inference of a special contract; that it was the duty of the physician to know or learn the true legal status of the patient and what were his true relations to the defendant.

So it is best after all, to find out in the first instance, "who is going to pay?"

I will now dwell a moment upon the confidential relations existing between doctor and patient, and the manner in which the law seals the mouth of the doctor and permits it at other times to open.

Section 834 of the Code of Civil Procedure provides that "a person duly authorized to practice physic or surgery or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him or her to act in that capacity."

This section is qualified however, by the permission for an express waiver of the patient, made in open court on the trial of the action. And the law is explicit that a paper executed by a party, prior to the trial providing for such waiver, shall be insufficient. But the attorneys for the parties prior to the trial may waive the privilege and that is sufficient to permit the doctor to testify.

The law permits a doctor to testify and disclose any information, as to the mental or physical condition of a patient who is deceased, which he acquired in attending such patient professionally, except confidential communications and such facts as would tend to disgrace the memory of the patient, but only, in case the personal representatives of the deceased expressly

waive the professional secrecy directed by the law, and where a validity of a last will is called in question, he can only testify where consent is given by the parties interested and named by law.

Of course these provisions of the law, it must be observed, apply only where the information is derived from the patient, while treating him professionally. If the testimony sought to be adduced from the doctor was obtained while seeing, talking to, or acting for the person, and not in his capacity as a doctor, the doctor would have the same freedom of giving his testimony, as an ordinary layman who could testify to a state of facts.

The questions arising under the provisions of law relating to confidential communications have been so considerable and novel at the same time, that nothing but the express consent in court of the patient, that the doctor speak, was sufficient to permit him to do so even in his own defense.

This led to such absurdities and injustice the the Court of Appeals finally through its decision forced a relaxation of the rule, more consonant with reason and justice, in a number of recent and important cases that court has held:

"Where a party to an action by failing to interpose an objection, permits a surgeon to testify to facts discovered in performing an operation on him, thus waiving the privilege conferred by law, he thereby waives the privilege as to another surgeon, who assisted in the same operation, and loses the right to object to his testimony on the same subject."

Another important decision, affecting substantially the rights of physicians and surgeons in a claim for malpractice, and giving them the right to defend themselves by testifying, has been recently handed down by the Court of Appeals.

"Where in an action against a physician for malpractice, the plaintiff, both in his complaint and on his own testimony upon the trial, fully disclosed all of the details of his case, thus revealing the secrets shielded by the statute, he thereby forfeited his right to object to the testimony of the surgeons, who had treated him after the alleged maltreatment, as to the nature and extent of his affliction, when offered by the defendant. By his own disclosure of the secrets which the statute was designed to protect, the plaintiff removed his case from the operation of the statute and thereby waived the protection afforded by it. The statutes relating to this privilege should be so construed, that, when the privilege of a party has been once waived by him in court, either by his own testimony or that of others, given with his knowledge and consent, and his physical condition has been given to the public, the door is then thrown open for his approval to give the facts as he understands them."

In other words, "The statute imposed silence upon the physician for the protection of the patient. The Legislature locked up the secret and gave the key to the patient. He can forego the privilege and unlock the mouth of the doctor and when he does so all secrecy is at an end."

There is another subject in which you gentlemen are interested and that is in regard to the examination of persons under an order of the court.

You gentlemen have doubtless heard much about the order for a physical examination of a plaintiff suing for damages for personal injuries, before trial, and I know of no mandate of the court which has been so frequently misunderstood, and as frequently abused. The dominant thought and practice has been, Oh, we will obtain an order for the plaintiff's examination, we will name our own doctor in the order, and thus we will obtain a physical examination in advance of the trial by our own doctor, and he will find as little as he can the matter with the plaintiff, and will testify accordingly, keeping in mind the border line of transgression of the Penal Law. I say that this statutory right of examination has been abused, and I can place that abuse before you in no better

manner, than by adopting the language of the Appellate Division of the Supreme Court.

"It was not intended that such physical examination should be accorded to an adverse party, for the purpose of enabling him to discover the weak points and to ignore the strong ones; the intent was to have an examination by physicians or surgeons, designated by the court, owing no obligations to the parties, the evidence so brought out to be available to either party. The defendant by demanding a physical examination under the full intent of the statute takes the risk of producing evidence which would be detrimental to him through the discoveries of disinterested witnesses, and the provisions of 873 of the Code of Civil Procedure that 'such examination shall be had and made under such restrictions and directions as to the court or judge shall seem proper,' does not authorize the admission to such examination of the physicians or surgeons, of one or both of the parties."

Thus, gentlemen, is exploded the theory that when you are appointed to make an examination by the court, you are expected to find as little as possible to hurt the defendant, or as much as possible to help the plaintiff. You become virtually under such an order, the officer of the court to seek out the truth, and you are placed upon your honor as officers of the court to act consistently with the best traditions of your profession in fulfilling a sacred trust.

Now gentlemen, much complaint is heard from physicians and surgeons attached to hospitals, about the injustice of attending court to give testimony, regarding cases in which they have acted, in their professional capacity in the hospital. There is a provision of law covering just such contingencies, but little known, it is true, and in over 20 years' active experience at the bar and on the bench I do not recollect a single instance of its application. The section I refer to is Section 836 of the Code of Civil Procedure, and by it, provisions,

"In an action for the recovery of damages for a personal injury the testimony of a physician or surgeon, or of a professional or registered nurse, attached to any hospital, dispensary or other charitable institution, as to information which he acquired in attending a patient in a professional capacity, at such hospital, dispensary or other charitable institution, shall be taken before a referee appointed by a judge of the court in which such action is pending, provided, however that any judge may at any time in his discretion order that a subpoena issue, notwithstanding such deposition be taken."

The object of that provision of law is plain; the law recognizes the necessity of the attendance of the physician or surgeon at the hospital, and an easy method is thus provided to take the testimony of the physician at his convenience before a referee.

Consequently, should any doctor actually connected with a hospital and attached to same be subpoenaed to attend court to give testimony in regard to a case in which his information was derived while attending such case in the hospital, he would have the right to refuse to obey the subpoena unless it was issued by a special order of the court and the doctor could demand that he be examined at his convenience before a referee under the order of the court.

Another source of much doubt arises upon the question of the admissibility of the statements of injured persons to physicians and surgeons, as to the sufferings from pain during treatment, and the attendance of the physician. I say much doubt arises, but it seems to be mostly confined to the justice presiding at the trial, who often labors under the impression that such statements or exclamations of the patient being made in the absence of the defendant, that they are inadmissible as against him, and upon the broad principle, that being made when the defendant is not present and without ability to respond, that he should not be bound thereby. It is the well settled law of this State, though not generally known, or well understood by

lawyers, judges and doctors that such expressions of pain are clearly competent and that the doctor may describe to the jury the expressions of pain of the patient, as well as the objective symptoms observed by him. As was said by the Court of Appeals, "Screaming or some similar exclamation is the natural language of pain in all men and in animals as well. Evidence may be given that a person appeared to be in great agony, was emaciated, looked haggard and feeble, and why not that he screamed from pain? However whether such exclamations were real or feigned is always to be determined by the jury," and so too may be offered in evidence, the absence of such exclamations with other appearances as a circumstance bearing upon the question of suffering.

I have but a few words to say to you on the value of "expert testimony." Of course in the early history of the Courts of England, opinion evidence, so-called, was wholly rejected, but with the advance of learning, persons specially qualified to speak in a particular line of profession, were heard in court, and these finally developed into the "expert."

Formerly it was thought necessary to put to an expert who has personal observation and knowledge of all the facts, a long endless chain of questions, and asking his opinion based thereon. The Court of Appeals, last month, said upon that point, "there is no principle and no orthodox practice which requires a witness having personal observation, to state in advance his observed data before he states his inferences from them; all that needs to appear in advance is that he had an opportunity to observe and did observe, whereupon it is proper for him to state his conclusions, leaving the detailed grounds to be drawn out on cross examination."

We all know that expert testimony is paid testimony, but that should not influence its trustworthiness. Physicians and surgeons complain of the lack of appreciation of their efforts as experts, and look askance at the doubts cast by judges, jurors and attorney upon its veracity or value, as really setting forth their professional opinions. I am not here to deliver an homily upon professional ethics, but I will however say, that your standing at court and before the community is as you make it. The honor of your noble profession will be judged by the standards you hold aloft, and if by your actions you permit that standard to become sullied or trailed in the dust, you alone must be held responsible for you are indeed your honor's keeper.

A word more and I have done. Unfortunately the spirit of commercialism is abroad in our country, and it hovers around your profession as well as mine. It has done more to degrade the profession of the law and medicine, than any other known agent. Both professions are overcrowded and the energy of educational schools seems to have been directed in producing quantity rather than quality. A registered diploma no more makes a doctor or a lawyer than a single snowflake makes a snowstorm. They may make for it, but they do not make it. A code of ethics may provide beautiful formulae, but as a monitor of conduct it amounts to naught. What is required is an original foundation of honor, integrity, ability, practice and study, and upon these a sturdy noble structure may well be erected. Without this foundation the edifice will rot and its ultimate end will be ruin and contempt.

In conclusion, permit me to thank you for your attention. Endeavor to bring to your profession at all times, the pure and undefiled principles of Hippocrates, inculcate into the minds of the medical student, his noble doctrines of purity, morality and honor in the practice of your art and science, and you will present to the community a mighty army for good, acting for the well being of the human family, and a phalanx of real men, with all that that implies.

A CASE OF HYSTERIC HEMIPLEGIA IMMEDIATELY FOLLOWING A DREAM AND DUE TO AUTO-SUGGESTION ARISING FROM NUMBNESS OF THE ARM CAUSED BY PRESSURE.

BY

CHARLES W. BURR, M. D.,

Professor of Mental Diseases in the University of Pennsylvania.

It is frequently impossible to discover the immediate, direct, exciting cause of an acute attack of hysteria. Sudden grief, even if its cause be trifling, long continued even though not very severe, depressing, emotional strain, and much more rarely sudden joy, all may bring on an attack, but in persons of marked hysteric temperament the attack very often comes on without any discoverable cause. Certainly in many cases there is no immediate emotional cause, external in origin, present. Sometimes something, we know not what—but have a right to guess it is an alteration in normal chemical processes—happens within the body itself which upsets the emotional and intellectual balance and causes an attack. Even assuming that all hysterics are extremely susceptible to suggestion, that indeed such susceptibility is the very essence of hysteria and that upon it depends the occurrence of the other symptoms, it is very rare for us to be able, omitting the cases such as those of hemianaesthesia after an examination of sensibility in which it is alleged that the physician himself suggests the symptoms by his examination, to find out what has produced the suggestion, and this is still more difficult to determine when the excitant of the suggestion is something within the patient herself, some thought she has or some perverted way of looking at it. I am not at all sure as yet, though I may be convinced, that hysteria is purely and simply a condition of hypersusceptibility to suggestion, but I am sure that in a certain number of patients extreme susceptibility plays a very large part in bringing on some of the symptoms, and in some, is their only exciting cause. It must be remembered, however, that this pathological susceptibility to suggestion is itself only a symptom and not the real cause of the hysteric nature or temperament. To say that hysteria is hypersusceptibility to suggestion does not really explain the disease because the underlying cause of hypersusceptibility is entirely unknown and until it is discovered the real cause of hysteria will remain unknown. We ought also to differentiate suggestion arising from causes within the patient from suggestion from without.

The case I report is an example of auto-suggestion arising from a cause within the patient herself, or at least I believe it to be such, my explanation being that the shock of a dream upset the emotional stability, such as it was, of a woman already hysteric by nature and the occurrence of a numbness in the arm with the associated disability resulting from pressure

during sleep produced the auto-suggestion of a hemiplegia. But little study has been made of the dreams of hysterics and still less of their influence on the waking life. It is very rare for an hysteric attack to begin immediately on awaking but it is possible that more often than we think the horror of a remembered dream may influence the patient hours or even days after its occurrence.

The patient has a long history of many attacks of nervousness, indeed, she has never been normal since adolescence. As in so many people the stress of development seems to have been too great a tax on her emotional nature and to have caused permanent instability. For many years whenever she has been worried or bothered or has over exerted herself she has had spells of vomiting lasting several days. Ten years ago she had an attack of "nervous prostration" for which she was treated for many months. Exactly what this was I could not learn, partly because time had blotted out the memory and partly because she is not mentally acute and logical enough to give a clear account of anything. I do not mean that she is imbecilic but simply that she is one of those persons who in a great cloud of rapidly uttered words hide a very little fact and who jump so from one thing to another in describing anything that one knows less about it at the end than before the beginning. Let me add that this mental state is much more marked during her periods of nervous ill health than during her more nearly normal times. Two years ago she had another nervous but less severe attack. She is an example of the type of woman who spends much time on the lounge or in bed but who can rouse herself from what appears to be a condition of extreme weakness and do things provided her desire to do so is strong. She is a person craving sympathy but giving none; supersensitive herself she has no realization of the fact that others have feeling. She is affectionate in the way a bad child may be affectionate. She is without any real interests in life outside herself. She has no hobby unless invalidism be one. Though she had every opportunity of education she is not of high mental type and yet every once in awhile she surprises one by the common sense of her ideas on some subject and the wisdom of her opinion as to the proper course of action in some matter requiring deep thought to decide. I have spoken thus rather at length about her mental make-up because hysteria is after all an attitude of mind and there are only certain types of persons who can suffer from it. There is the hysteria of the genius, of the dull-minded, and of the eccentric and what symptoms each shows depends in some degree on the differences in the intellectual and emotional nature.

Four days before I saw her professionally for the first time, and when she was in quite good health, she called to her husband not long after she had gone to sleep, saying that a moment before she had been awakened by feeling a strange man's hand on her face. Really no one had touched her but, as she realized when awake, she had dreamed it. When she became fully awake she discovered that she could not feel her left hand. She did not know it existed except when she looked at it. (I think the explanation of this is that her arm was numb from having slept upon it though I have no evidence of this save her husband's statement which, however, was very positive). By the next morning the arm was not only numb but she had lost power in it completely and there was numbness on the left side of the face and in the left leg. There was some but not complete loss of power in the left leg.

Examination revealed a well nourished woman about fifty years old. The heart was normal and there was no evidence of arterial sclerosis. The urine was normal. There was tactile anaesthesia over the entire left side including the face and stopping abruptly at the middle line. Deep pressure anywhere on the left side sufficient to cause pain or at least discomfort, in a normal person, she felt but without pain and localized only vaguely. Notwithstanding the tactile anaesthesia, stroking the left sole caused a very rapid extension of the great toe and withdrawal of the foot. The movement was not like that occurring in disease of the lateral tracts. The right plantar jerk and both knee jerks were normal. She could move the left arm in all directions but with little force and quite

awkwardly. In bed she moved the left leg well. In walking she dragged it and did not swing it out from the hip. There was no palsy of the face. There were no contractures of the arm or leg. The pupils were equal in size and reacted well to light and with accommodation. She was very hysterical in manner in the popular sense of the word. Mentally she was silly, not demented but behaved like a spoilt child. She was very talkative but her answers to questions were not responsive. She would start to answer a question properly but would soon wander off to talk of things trifling in reality but more interesting to her at the moment.

Being sure that there was no organic trouble I reassured her that she would recover but told her that if she was not well in a few days it would be necessary for her to go to a hospital where I could give her certain very elaborate methods of treatment. In three days the palsy and anaesthesia had passed away and though of course her hysteric temperament remained unchanged she was mentally bright and rather acute. The palsy did not disappear suddenly but rapidly improved from day to day, almost from hour to hour. The anaesthesia passed off within eighteen hours of my first visit, presumably suddenly; at all events the next morning after my examination she said, "I can feel now" and when tested answered correctly. She was no longer silly but sensible and quiet in manner and bearing. Both the illness and its cure were brought about by suggestion.

ASTHMA RELIEVED BY INTRA-NASAL OPERATION, WITH CASE REPORT.[1]

BY

CHARLES JOHNSTONE IMPERATORI, M. D.,

New York City.

As has been shown by Kyle of Philadelphia, that asthma is a disease due to vasomotor paresis and bronchial spasm, it is reasonable to assume that nasal, as well as any other form of peripheral irritation may reflexly produce the asthmatic paroxysm.

"In search of the underlying cause of bronchial spasm, eliminate cardiac trouble, renal disease, malarial influence, gastric and intestinal disturbances, irritation of the cervical sympathetic by enlarged glands and growths, chronic bronchitis, skin lesions, sexual irritation, rheumatism, gout, psychical causes, then examine the nose."

The following case will illustrate that nasal obstruction is one of the causes of this peculiar disease:

Mrs. M. L., 35 years old, born in Ireland; resides in the Prospect section of Brooklyn.

Family history: Father alive and well. Mother's death accidental. Brothers and sisters all healthy. No tuberculosis, rheumatism, cancer, or diabetes in the family.

Past history: Married ten years and has four healthy children. For the past ten years has had frequent attacks of asthma, otherwise has been perfectly healthy.

Status Praesens: For the past year the attacks of asthma have been getting severer and more frequent. For the past three months has had an attack every night, each attack lasting from three to four hours. The attack is characterized by a gradually increasing dyspnoea and cough until an acme is reached when the inhaling of an asthma powder, after ten or fifteen minutes, usually produces an abatement of the attack and the patient falls asleep exhausted.

From the large and frequent doses of cough mixtures and the asthma powders inhaled, etc., her appetite is very poor and her bowels constipated. She also complains of considerable cough with an attendant dyspnoea on exertion. There is also considerable muco-purulent expectoration.

Physical examination:—

October 4th, 1910. Patient moderately anaemic, spare. Weight 112 pounds. Five years ago weighed 130 pounds.

Nose and throat:

Subjective: Breathing obstructed, marked on the left side.

Objective:

Inferior turbinates of both sides slightly enlarged. Middle turbinate, right side, greatly enlarged.

[1]Read before the Clinical Soc. of the N. Y. Throat, Nose and Lung Hospital, December 5th, 1910.

Middle turbinate, left side: After free use of adrenalin and cocaine, this side shows an enormous hypertrophy of this turbinate and apparently without any polypoid degeneration.

Septum deflected to the left in the upper meatus, opposite the enlarged turbinate. Several large bony spurs on both sides of the septum.

Sinuses are apparently normal.

Tonsils present, not diseased.

Pharynx shows chronic follicular changes.

Larynx negative.

Chest:

Inspection: Slightly flattened, with small amount of bulging in the region of the apices.

Palpation: Skin dry. Slight decrease of vocal fremitus, mostly anterior.

Percussion: Hyper-resonance over mostly all the anterior borders of both lungs and hyper-resonance over both apices.

Auscultation: Prolonged low pitched breathing, both inspiratory and expiratory murmur being nearly alike, indicative of emphysema of the lungs. Rales over the larger bronchii.

Heart:

Sounds are normal, excepting the fact that the sounds are slightly muffled, due to the emphysematous lung overlying the cardiac area.

Abdomen: Negative as regards the present condition.

Blood: Differential count of leucocytes:

Eosinophiles,	12%
Polynuclears,	59%
Lymphocytes,	20%
Transitional and mononuclears,	9%

Urine: Negative.

Sputum: Negative. One examination.

Operation on the hypertrophied middle turbinate on the left side was advised but the patient being of an extremely nervous temperament this was refused.

The treatment consisted of a cleansing spray, followed by spraying with a solution of adrenalin 1-4000, when the attacks came on.

The patient returned four days afterwards with the story that she had slept well for the past four nights and was willing to have the turbinates removed.

On October 10th, under cocaine anaesthesia, removed the major part of the left middle turbinate that is here exhibited. The patient has felt so well since the operation that I have not seen her. However, she has reported by telephone that she is feeling very well and has slept every night since the removal of the turbinate and also that she has not had an attack of asthma since.

According to Ballenger the chief predisposing cause of enlargement of the turbinated bones is an obstructive lesion of the nasal septum. This condition predisposes to the local growth of pathogenic bacteria and the development of their toxins. If there is an obstructive lesion of the septum and particularly the anterior part, there is created a negative pressure, or a rarefaction of the air posterior to the obstruction. This negative pressure causes a dilatation of the capillaries in the vascular tissue of the turbinates thus causing a gradual increase in size.

The mechanical irritation of a spur or a septal deviation will irritate the tissues of the turbinated bodies near the obstruction sufficient to cause an enlarged turbinate and changes in the secretions.

Any imbalance in the vaso-motor nervous system, caused by improper clothing, ventilation, defective elimination causing a retention of the waste products of the body, etc., will, also, produce enlargement of the turbinated bodies. Sinus involvement by the continued slight irritation of the secretions usually produces a hyperplasia; that is, a definite increase in size due to an increase in the number of cells, especially the connective tissue cells. In the condition known as hypertrophy the cells themselves are enlarged.

To endeavor to explain the relationship between the turbinated bodies and an attack of asthma, it will be necessary to recall a few

anatomical points. The arterial supply to the mucous membrane and to the erectile tissue of the turbinated bodies is controlled by the vaso-motor nerves from Meckel's ganglion, and is under control of the vaso-motor centres in the medulla, where there is probably a connection with the nuclei of the vagus, through association fibres.

There has been demonstrated in section of the new born mouse, that a few of the collateral fibres from the gelatinous substance of Rolando, which is the receptive nucleus of the trigeminus in the medulla, break up under the motor nuclei of the facial and the vagus and the inference is that they communicate.

"The anatomical connections between the bulbar nuclei of the fifth and the vagus, by means of which the upper and the lower respiratory tracts are physiologically associated" thus explain how nasal irritations at times will give rise to asthmatic attacks, or spasms of the bronchioles. But we frequently find asthmatics, who have intra-nasal complications, and even though operated upon, the result so far as the cure of asthma, is nil.

The question then arises, shall all asthmatics, with intra-nasal complications be submitted to operative interference? Except in very selected cases and those complicated by some serious lesion, it seems reasonable to advocate, that any intra-nasal lesion that inhibits proper breathing in the upper air passages of the asthmatic should be removed.

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245 W. 102nd St., N. Y.

STUDIES IN GYNECOLOGY.[1]

BY

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I present the following considerations of work in gynecology in a brief outline, because modern medical papers are too long and many contain much matter of no value, hence important points are frequently overlooked in the haste to glance over lengthy articles.

This series of cases consists of the last 60 consecutive abdominal and last 60 vaginal operations without mortality.

The headings and subdivisions should be sufficiently clear to the reader, who can mentally fill in the omissions.

A—There is an increase in number of operations each year, because—

1—Operations are more easily performed, due to
  a—better diagnosis;
  b—modern asepsis;
  c—qualified nurses and assistants;
  d—hospital training.
2—More operations are required, on account of
  a—modern woman;
  b—meddlesome obstetrics;
  c—gonorrhoea;
  d—induced abortions.
3—Amateur needs experience and expert needs fee.
4—Public is better educated to the value of surgery.
5—Operations are fashionable to some and mean sympathy for others, hence are desired.

B—When is a case operative?

1—When there are immediate demands, on account of
  a—injuries;
  b—hemorrhage;
  c—extra-uterine pregnancy;
  d—pus formation, which can be evacuated;

[1]Read before Academy of Medicine, McKeesport, Pa., April 29, 1910.

e—malignancy;
f—twisted pedicles of cysts, calculi, etc.

2—When treatment cannot avail, as in
a—sterility;
b—hernia;
c—tumors;
d—calculi;
e—prolapsed ovaries, etc.

3—When treatment has not improved, for example,
a—inflammations;
b—pain, continued or occasional;
c—adhesions;
d—constipation;
e—reflex symptoms;
f—prolapse of uterus, etc.

C—When should we operate?
1—When there are immediate demands, patient receives little preparation.
2—Soon, but patient receives careful preparation.
3—Elective.

D—When should we not operate?
1—When the operation entails more danger then the risk might guarantee good.
2—When the patient is not able to undergo operation without great danger, as when there is present
a—intercurrent disease, or
b—too great shock.
3—When the condition of the patient can be improved by waiting, changes occurring in
a—temperature; which should be normal for a sufficient time, exceptions being tubercular conditions, appendicitis, etc.;
b—blood count, which may be of great value;
c—nervous condition;
d—general conditions, as stomach, intestines, appetite, sleep, etc.

Remarks: Hospitals and Health Bureaus should require surgeons to explain more fully cause of death following operations. The time will come when surgeons will be compelled to state the indications for each operation and be accountable to a certain extent for ill consequences. If, for example in pyosalpingitis the temperature is normal for a sufficient time, leucocyte count satisfactory, but upon careful examination the temperature rises, WAIT.

E—Conservative surgery consists in
1—Removal of part of ovary, tube, etc. Many now state that we should not resect a cystic ovary if other one is normal, as part remaining is very liable to become a cystic tumor of size.
2—Relief of symptoms as far as possible, avoiding danger.
3—Removal of cancerous tissue for pain, hemorrhage, odor, etc.

Remarks: It is surprising how completely nature can remove very large pelvic exudates. It is generally safe to operate on patients having valvular, (especially mitral) heart trouble, provided compensation has not been lost.

F—Special considerations:
1—Speed is valuable, but should not be attained at the expense of safety. Two operators can frequently work at the same time when haste is essential, one doing abdominal and one vaginal work.
2—Great care should be exercised in handling intestines, removing adherent tubes, etc. There should be no careless manipulations. Stop when through.
3—Carefully prepared patients, carefully operated upon rarely require drainage, except when a pus cavity is evacuated. With the exception of pus cavities in which cases no organs were removed, I did not use drainage, abdominal or pelvic, in any of above abdominal operations; the recoveries from operation in each case were better than in former cases when I used drainage.
4—The after treatment of plastic work is very important. Sutures in cervix and perineum should be sponged with a weak bichloride solution daily and kept dry by use of fresh iodoform gauze at each dressing. Douches are not satisfactory. The surgeon himself should daily inspect these sutures until healing has occurred.

5—Menorrhagia is due to so many causes, that great care must be exercised in making a diagnosis and in determining upon treatment. Curetting will cure some, hysterectomies are required for others.

6—Pain is more difficult to treat and in many cases to explain than is hemorrhage. As pain due to pelvic trouble may be referred to so many different parts of body, a patient must frequently be studied for some time before a diagnosis is made. Painful menstruation may yield to dilatation, stem pessaries, removal of ovary, cure of anemia, etc., but occasionally we meet a case, cause unknown, when treatment is of no value.

7—Prolapsus uteri is treated successfully by very many various ligament operations, repair of vaginal lacerations, suspension, pessaries and astringent douches. The wise surgeon considers that each case requires its own form of treatment.

8—It is not good, safe surgery to curette every uterus before doing abdominal work. A uterus known to contain gonococci should not be curetted previous to opening the abdomen. It can be treated subsequently, while patient is recovering from the major operation.

9—Ask the patient if she wishes a normal appendix removed. Obey her wishes.

G—Second operations may be due to

1—New conditions either as a result of or independent of previous operations.

2—Desire to complete a condition partly corrected previously.

H—DO NOT OPERATE unless you think the condition of patient demands it, and you would be willing to have same operation under similar conditions performed on your mother, wife, sister or daughter.

Keenan Building.

FEET.[1]

BY

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This paper is the result of observations made during several years' study of disabilities of the lower extremities in adults; is not cribbed from text books, and is intended to help clear up any doubts in the minds of my hearers as to what function our feet were intended to perform, why, and how they were to do it, what help they need in doing it.

Functions of Feet:— To propel the body forward in locomotion and to support the weight of the body at rest.

In locomotion the weight is received on the heel, passed on to the ball of the foot, the latter giving the final propulsion onward to the next stop or step.

The foot in doing this passes through an arc of almost a right angle, being flexed at about half when heel strikes ground and extended the same distance when leaving.

Therefore I shall divide my paper into three questions, as follows, and in answering:

1. Why do patients consult us for pain in their feet?

2. What can we do to relieve their pain?

3. What will happen if we do not give them relief?

The main reason why people consult us for pain in their feet is that something

[1]Read before the Norwegian Hosp. Alumni, Brooklyn, Oct. 1910.

interferes with the proper flexion, placing of the foot on the ground, resulting in faulty locomotion and improper balancing of the weight of the body on the foot; therefore, the foot being in a strained position to maintain balance, locomotion becomes wearisome and painful. We find the proper line of weight bearing can be determined by dropping a plumb line from the centre of the patella to the floor; if the leg or pillar is plumb the line will fall between the second and fifth phalanges of the feet; any deviation from the line is a disability. The reader understands the anatomy of the foot therefore a detailed description is not needed.

What interferes with proper flexion of the feet? Any ankylosed ankle joint resulting from a former fracture, tubercular or gonorrheal infection. Perhaps we have an acute infection of the ankle joint, rheumatic, tubercular or gonorrheal; or we may have a faulty or ill fitting shoe. These are the most common causes and can be readily diagnosed and treated accordingly.

There remains one other reason which is most frequently overlooked and not treated, that is, short calf muscle. In this condition the patient will complain of great pain and difficulty on ascending stairs and on standing on heels almost impossible to raise toes from ground. On examining the foot it will be found that it is almost impossible to flex the foot to a right angle or much beyond that without the patient experiencing great pain in calf muscle, and if observed carefully in the majority of cases there will be found a tendency to talipes equino-varus and perhaps a history of slight C. C. F. may be elicited.

What can we do to relieve the pressure on the tendo-achilles and promote proper flexion of the foot? An operation to lengthen the tendon is very successful, followed by wearing a plate and properly fitted shoe. This is the treatment that will permanently relieve the trouble, the only disadvantage being that the patient must remain in bed from four to eight weeks with plaster of paris dressing before the function can be properly exercised. If for any reason the operation is contra-indicated great relief can be be obtained by the surgeon stretching the tendon at regular intervals and having the patient exercise the feet several times daily standing on heels and raising the feet upon the floor. A cast should be taken of the feet after several stretchings and a plate made to correct the tendency to varus if present and to raise the anterior half or the os calcis or calcaneum.

What will happen if we fail to relieve the pain? Pain in calf, thigh and back that will defy tons of aspirin and codeine to relieve permanently, and possibly add to the wealth of some osteopath to whom our patient finally drifts and who finds that one of the vertebra has started to find the north pole and can only be brought back after two or three hundred dollars' worth of osteopathy has been "Cooked."

We have disposed of the flexion and a second question confronts us. What can interfere with the proper balancing of the body on the feet? In this we find that the foot is either abducted or adducted from our line of balance, and the reason may be—contractures of cicatrices from burns, ulcers, etc., or following fractures of tibia or fibula. This may be corrected or aided in some cases by a brace relieving the muscles and skin tension over the formerly affected region.

These conditions are very difficult to treat as the idea of wearing a brace is

rather discouraging to many. The principal cause of this condition however is weakness of the ankle ligaments allowing the foot to assume faulty position in either adduction or abduction—pronated. This condition will be readily seen on examination of the shoe when the surface will show the part that comes in contact with the ground more frequently by its worn appearance.

How can we relieve this condition? By over correcting the deformity with adhesive plaster changed at weekly intervals, the plaster being started just under the malleolus of the normal side, brought around under the calcaneum, over the malleolus of the deformed side and the foot forcibly over corrected and the plaster continued up the side of the leg to the level of the upper border of the calf. This is reinforced with a circular turn around the calf and around the leg above the malleoli and a tight linen bandage covering all. This will tend to strengthen the weak and lax ligaments and muscles and stretch the strong ones causing the deformity; after several applications of this and the foot tends to assume a normal position a plate should be made to keep the foot in its new position, when the strapping may be discontinued. If, however, the deformity recurs the strapping should be started again.

320 W. 84th St.

SURGICAL HINTS.

When dressing a freely suppurating wound of one of the extremities it is much better to apply the gauze in flat pads than in circular turns. Soiled gauze wound about an extremity cannot well be removed in a cleanly fashion; and, too, circular turns tend, by spreading the pus over the skin, to set up a pustular dermatitis.—*Amer. Jour. of Surgery.*

UNUSUAL EFFECTS FROM GUNSHOT WOUNDS OF THE SKULL.

BY

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A well built mechanic, five feet seven inches tall, weighing about 150 pounds, aged thirty-five years, placed a shotgun against his occipital bone and fired the charge with a string attached to his right foot. The shell was charged with 26 grains of smokeless powder and a heavy load of number 4 birdshot. The result was extremely violent. The cranium was cleared of its entire contents, with the exception of a few small shreds of *dura mater*. The cranial bones were not only broken but in most cases comminuted. Spots of blood, splinters of bone, and fragments of brain tissue were spattered over the side of the house to the height of several feet. The main part of the cerebrum was lying several feet from the body of the dead man. Every bone of the face, save the vomer and the lower jaw, was broken, and in most cases comminuted. The clinoid processes were fractured and blown away. The skin covering the face resembled some garment thrown loosely over an irregular surface. The eyes were not ruptured. A few battered shot were found imbedded in the cerebral tissues. When found the head of the suicide was lying several inches below the body, and a vast pool of blood told the story of unlimited hemorrhage.

SURGICAL HINTS.

Rupture of the urethra occurring between the posterior layer of the triangular ligament and the scrotum is one of the most serious accidents in surgery, and demands immediate operation.—*Am. Jour. of Surgery.*

PHYSIOLOGICAL VERSUS ANATOMICAL RESULTS FOLLOWING GYNECOLOGICAL OPERATIONS.[1]

BY

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New York City.

For twenty-two years I have had the opportunity of watching the results of operations of others and myself and I wish to present to you a few observations I have noted along the line indicated by my subject. For many years I have been convinced that the man who was able to see the after results of his operative treatment in gynecology would tend to become more and more conservative. The young and oftentimes the more experienced operator correctly diagnoses the condition of double tubo-ovarian abscess and with only the thought in his mind that he should remove organs that are supposed to be anatomically destroyed by disease, and without a thought for the future of the woman, boldly takes out both tubes and ovaries and oftentimes the uterus, triumphantly exhibits them at a medical society and with pride tells his patient she is now well. Or again, the case is that of a fibroid tumor and with equal zeal a pan-hysterectomy is performed. What of the woman? Let me draw in a few words her picture. A nervous wreck, a neurasthenic with all that the word implies to a greater or less degree until after the normal climacteric age; with hot flashes in the winter and cold ones in the summer; suddenly develops a matronly appearance with increasing flesh; rapid senile changes in the vagina take place with the disappearance of its rugae; the symptoms of senile vaginitis, accompanied by frequent and painful urination, makes her go from one physician to another until at length she settles into a state of semi-invalidism with a perverted mental attitude. Knowing that she is different from her sister she becomes the confirmed victim of hypersensitiveness.

What of her home history? Often she is incapable of the sexual duties of the wife, except with such pain that the husband ceases his relations oftentimes out of consideration for her. We know full well what many a man does under such circumstances, unmindful of his marriage vows and justifying his conscience by the thought that it is to save his wife pain that he seeks new pastures, forgetting that his boyhood's gonorrhea has been the cause of her invalidism.

We as surgeons cannot wholly shirk the responsibility of having not infrequently helped to wreck this life and home.

I am not drawing an exceptional picture. There is probably not a man present who has not seen just such a case and who does not dread to see such a patient walk into his consultation room, for he knows only too well how little he can do to benefit her. How many families have seen happiness fly out of their homes after such anatomical cures?

It has been said that the greatest actuating instinctive desire on the part of man is "to get and beget." "To get" what he can of this world's comforts and "to beget" his kind. With equal truth can it be said of the woman that her strongest instinct is "to have and to hold." To be able "to have" a child and "to hold" it to her breast.

How many gynecologists ever stop to think that the removal of the woman's ovaries has practically the same physiological result on her being as castration would on that of a man? We are certainly

[1]Read before the West End Medical Society, October 22nd, 1910.

still very ignorant of the mysterious influence of the so-called ovarian secretions and many of us have been more than discouraged by the poor results to be obtained from the various ovarian extracts on the market.

What results may be obtained from the new corpus luteum extracts remains to be seen.

In the meantime I want to put in my plea for the retention of enough of the female pelvic organs to permit the woman to be a woman. I feel certain that every man in this room has more respect for the wonderful curative powers of old dame Nature than he did when he first began to practice his profession. He notes her marvellous reparative power at times under seemingly impossible difficulties.

In two women whom I personally confined afterward have I, through a posterior section of the vagina, opened and drained pus tubes. I desire to present a very brief history of these cases. The first was a woman twenty-six years of age who gave a history of recent gonorrheal infection resulting in a double pyosalpinx. Sending her to the Memorial Hospital, I opened the cul-de-sac of Douglas through the posterior vault of the vagina, opened both tubes, evacuated the pus and established drainage. An uneventful recovery followed. Eight months later she came to me with a recurrence of the condition on the left side and again was treated in the same way. One year later, following a prolonged horseback ride while menstruating, there was a double recurrence of her old condition. This time I determined to open the tubes from one end to the other. Through a similar opening into the cul-de-sac I exposed first the right and then the left tube and with a pair of scissors opened each completely and drained as before. Two years later I confined her for a normal child and she made an uneventful recovery.

The second case, a young woman of twenty-nine, gave me the following history: At the age of 17 while living in the West she had her left tube and ovary removed for what her surgeon told her was cystic degeneration of the ovary. She married at twenty-eight and a year later became pregnant. Not wishing to have a child at this time she placed herself in the hands of an abortionist. This man succeeded in producing an incomplete abortion which was followed by a septic endometritis. I cleaned out the foul secundines from her septic uterus and was happy to see a temperature of 104° drop to normal in a very few hours. An uneventful recovery was apparently in progress until the eighth day after the curettage. Pain in the right ovarian region with slight rise of temperature indicated more trouble. In two or three days the right and only remaining tube was the site of an abscess. Vaginal section enabled me to verify the statement of the patient in regard to the absence of the left tube and ovary. After which I opened the right tube for almost its entire length, wiped out the pus and packed its cavity with gauze. Within six months this patient was pregnant and on the 26th of May this year I delivered her of a normal child. Her recovery was also uneventful.

I do not claim that one is to expect such a result after the opening of pus tubes with drainage, and in fact I will go even further and state that in many instances the vaginal drainage may have to be repeated as was done in the first case reported, but what I can and do claim is, that after such an operation the patient will menstruate, retain her mental equilibrium and her sexual

functions. Suppose it *is* necesary to operate more than once, if the reseult obtained is so much more to be desired. Done under proper precautions by one who has had even a moderate experience, the risk to life is practically *nil*, and the physiological cure is almost certain.

I can imagine some critic will say that I only see the good results after such operations, the others discouraged go to another surgeon. In some cases this is doubtless true, but I have been able to follow enough of these cases to know that far fewer seek help elsewhere than those poor "female eunuchs" who go from surgeon to surgeon seeking relief they cannot find.

The removal of a fibroid uterus with the tubes and ovaries is far easier than it is to remove the fibroid tumor or tumors and build up a new uterus from tissues that remain, leaving one or both tubes and ovaries. While as stated above the work is distinctly more difficult, the result is a hundred fold more to be desired. My own personal experience would indicate that it is also accompanied with less risk to life. Nor do I mean the simple enucleation of small sessile or pedunculated fibroid nodules, but the removal of large fibroids oftentimes necessitating the opening of the endometrium with practically reconstructing the uterus.

In all of these cases with myomectomy the menstrual function has been retained and this of itself is greatly to be desired. Only recently I listened to a well known gynecologist in this city who said that for his part he saw no reason to make an effort to keep up a function which made the woman feel more or less miserable each month. His experience and mine have certainly been very different. Tell the woman in the late twenties or early thirties that she is entering a premature menopause and will soon cease to menstruate, and see how she will plead to have this function prolonged.

The removal of the uterus in young women has been performed for profuse menstruation. I am thoroughly convinced that such an operation is rarely justifiable, since the condition can be controlled in the less severe cases by the ligation of the uterine arteries, and in the more aggravated by removing a wedge shaped piece from the fundus of the uterus. Naturally I do not refer to cases of malignancy but to those fortunately rare cases of menorrhagia the etiological origin of which is still in doubt. In place of condemning these cases to live the unnatural life of a sexless creature they may be restored to perfect health and normal functions by more conservative treatment. The younger the woman the more certainly is she distorted physically, mentally and sexually by the removal of her ovaries.

In conclusion, I again wish to put in my plea for conservative gynecology, remembering that we are dealing with a woman as well as a patient, and that the preservation of her sexual functions may and often does mean her future usefulness as a woman, mother and wife.

54 W. 76th St.

SURGICAL HINTS.

In the use of iodin in skin disinfection it is important to refrain from washing the part with water for several hours before the application.—*Int. Jour. of Surg.*

A malarial seizure accompanied by vomiting and abdominal pain may simulate appendicitis, cholecystitis, or other acute intraabdominal lesion. A leucocytosis even of 20,000, does not gainsay the malarial diagnosis.—*Am. Jour. of Surgery.*

BRIEF SUMMARY OF ARSENIC TREATMENT OF SYPHILIS ANTEDATING THE MODERN EHRLICH-HATA 606.

BY

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Copenhagen.

Translated by Dr. Ejnar Hansen, New York.

Dourine is the name of a disease in horses. For many years it has been the opinion of veterinary surgeons that it was a kind of "horse-syphilis" or a disease very closely related to syphilis.

Dourine (mal du coit, Beschäls krankheit) is a chronic infectious disease attacking horses, donkeys and mules and only communicated by coitus. It is now rarely found in Europe, all animals suffering from it being immediately killed or castrated. It was first recognized in Tripoli, Algeria, Arabia and Persia; a few cases can also be found in Hungary. In the United States it is sometimes found in Illinois, Nebraska, Wyoming and Dakota. Cases have also been found in the East Indies.

Rouget first found the parasite in 1894, Doflein (Jena 1901) gave to it the name *"trypanosoma equiperdum."* The disease has three distinct stages.

I. Eleven to twenty days after coitus oedema starts around the lower edges of the preputium, it spreads to scrotum, inguinal region and often to the abdominal wall. It is cold and indolent. The temperature is 97 to 97.5°. In a few days this oedema will disappear, but the animal is weak and it has difficulty in carrying its rider.

II. (*Eruption*) 40 to 45 days after coitus there will be found on the sides and back infiltrated spots varying in size from a quarter of a dollar to the size of the palm of the hand. It feels as though a flat piece of metal was imbedded underneath the skin. These spots last from 1 to 10 days. The horse becomes thinner, the hind legs lame, the joints soft and large swollen glands can be found in the inguinal region.

III. (*Anemia and paraplegia*). The horse is very lame and has no appetite. Abscesses form which are very difficult to heal. There is conjunctivitis, ulcerative keratitis, distinct crepitus in joints; the bones are easily fractured. At last there is paraplegia and the horse dies. The length of the disease varies from 2 to 10 months.

Treatment gives little result but several authors praise arsenic as being of some benefit. (*Trelut, Archawgelsky, Novikoff, Blaise,*) *Marchal* (veterinary surgeon Constantine 1903) cured 5 horses suffering from dourine by injecting sodium cacodylate 1 gram dissolved in 4 cc. of water every day for 5 days, then omitting 5 days and so on until the horses were cured. Dourine can be induced in dogs, rabbits, rats and mice by inoculation. Experiments on these animals showed that atoxyl had a specific effect on the disease.

Atoxyl (Ehrlich 1907) was discovered 1863 by a chemist in Montpellier by name *Bechamp.*[1] Dr. Thomas, an English physician used atoxyl (1904) for sleeping sickness.[2]

Uhlenhut assisted by *Hybener* and *Woithe*[3] from Kaiserlich gesundheitsamt in the winter of 1906-1907 experimenting on rats, mice and rabbits inoculated with dourine showed that atoxyl could cure the disease even in its worst form.

Schaudinn, who discovered spirochaeta pallida, experimented on owls, and in his last work,[4] printed shortly before his death, gave us the theory that trypanosoma and spirochaeta are only different steps in the evolution of the same endoglobular hematozooa.

This theory of Schaudinn started Uhlenhut experimenting with atoxyl on a typical spirochaeta disease, the so-called chicken spirillosis. His results were surprising. Atoxyl made the parasites disappear from the blood current in 8 to 12 hours, and the sick chicken became lively and well. Injection in other chickens made them immune. These experiments were continued by Hoffmann in his atoxyl treatment of apes.[5]

Lesser in Berlin began treating human beings with atoxyl. At the same time similar experiments were made elsewhere by *Neisser, Salmon, Hallopeau,* and *Metchnikoff.*

Hoffmann's and *Weidanz'* experiments on rabbits proved that atoxyl had a remarkable effect on syphilis. Rabbits inoculated with syphilis in the eyes and at the same time treated with atoxyl did not develop keratitis syphiliticus. Other rabbits with the same disease were entirely cured by the same treatment. Atoxyl did not, at that time, play any important role in the treatment of syphilis in human beings, because so large a dose was necessary that the patients were exposed to the well known optic neuritis that claimed so many victims as a result of the atoxyl treatment of sleeping sickness.

Uhlenhut and *Manteuffel*[6] then tried a combination of arsenic and mercury, but this preparation has as yet not proved very popular. The severe optic atoxyl-neuritis has kept the syphililologist away from this very interesting combination which, when tried on animals, proved to be of much more value than atoxyl.

Rosenthal[7] made some experiments with acidum arsenicosum with satisfactory results. He tried it in 60 cases and used the following solution:

Acidi arseniosi centigram 8.

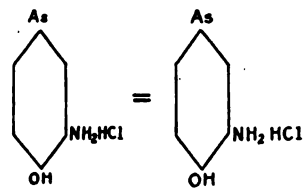
Acoin ..... 12.

Aqua destill gram 40.

From the above solution he injected one line (Pravaz) every third day increasing the dose one line until the maximum dose of 8 lines. He mentions[8] one very severe case of syphilis of the roof of the mouth and the lower jaw, where the patient could not tolerate mercury. The case was cured with 0.544 gram of above solution injected during 5 weeks.

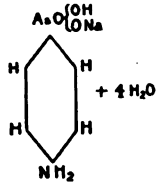
Ehrlich has been more successful with his new preparation "606." According to the patent it is derived from atoxyl but differs from it in name and chemical combination.

It is a well known fact that Ehrlich reformed our ideas of the chemical combination of atoxyl. It is he who first recognized it as *paraminophenylarsinacid* and from this discovery he synthetically reached "606." *Dioxy-diamido-arseno-benzol-dichlorhydraic.*



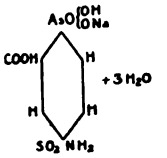
In this combination arsenic is trivalent and Ehrlich tells us that the pentavalente arsenic combinations have less value than the trivalent ("606" and arsenophenylgly-

cin.) It is a question if Ehrlich is right. The three most interesting pentavalent arsanilacids are:



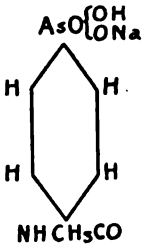
ATOXYL

Paraminophenyl arsinite of Sodium 24% Arsen.



HEKTIN

Benzo-sulphonparaminophenyl arsinite of Sodium 19% Arsen.



ARSACETIN

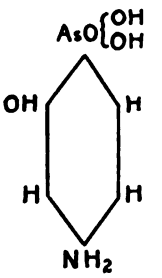
Paracetylaminophenyl arsinite of Sodium 22.3% Arsen.

The bad effect on the optic nerve has brought distrust to Uhlenhut's atoxyl and arsacetin. That leaves us *Hektin*. *Hektin* was discovered by *Moneyrath*, professor in chemistry at the University of Lyon. He is known as an associate of Armand Gauthier who first introduced *Arrhenal* into the modern therapy. In 1904 when he wrote *"L'Arsenique organique"* he showed us that the step from Arrhenal (Methylarsin Sodium) to atoxyl was not a great one.

After three years of experiments with these combinations on apes and rabbits[8] inoculated with syphilis, hektin entered the syphilitic therapeutic field through *Balzer* and *Hallopeau*. Moneyrath thinks that the poisonous effect and curative action of these arsenil compounds is increased by the weight of the aromatic nucleus.

The aminoradical NH_2 in the arsanilates increases the action of the aromatic arsinacid in such a way that the therapeutic dose is smaller than the toxic.

The amin-group (NH_2) can be replaced by hydroxyl with the same result. Two years ago Moneyrath produced several of these combinations and published his methods in *Bulletin francais*, 30 juli 1908. He was the first to produce hydroxyaminophenylarsinacid



which is the compound Ehrlich reduced and by which he gained his dioxyamidoarsenobenzol. Ehrlich was the first to use arsenic combinations in therapy and knowing that acetanilid was less poisonous and better borne than anilin he introduced the acetyl-atoxyl-arsacetin.

Moneyrath went another way. He tried to discover how the organism rendered benzole and anilin innocuous when introduced into the blood. He found that when a large dose is injected into the veins of a mammal, a part of it is disposed of unchanged, the other part is oxidized in such a way that benzole is converted into phenol (C_6H_6 to C_6H_5OH), anilin to paraminophenol ($C_6H_4OH_2$).

While phenol is not thus rendered actually harmless and still remains as poisonous as benzole, we have the action of the glycuronic acid (COH [CHOH] 4 COOH) and potassium bisulphate combined with

phenolhydroxyl forming the less poisonous potassium, phenol and aminophenylsulphates and glycuronates.

To counteract the injurious action of the acids (benzoic acid and gallic acid) the organism uses the aminoforming action of the glycocoll and forms amides like hippuric acid.

Moneyrath was chiefly interested in the sulphones uramides, urinary constituents, and after experiments on animals he decided that *hektin* and its mercury salt *hektargyrum* were the best. Hektin plays the same role in the therapy as benzoashydrarg, oxycyan mercury and other soluble mercury salts and for that reason can be used to better advantage than "606" which coagulates albumin. For the same reason it produces hardly any pain, there is no redness, infiltration or induration and it is not necessary for the patient to stay in bed.

Hallopeau and *Balzer* (chief surgeons at St. Louis hospital in Paris), *Milian* (Paris), *Moniz de Aragua* (Brazil), advise fractional doses of hektin, 10 centigram daily or 20 centigram every second day until 2-3 gram has been injected. If complications set in the injection can be stopped at once.

Balzer[10] in a large number of cases has only observed 3 cases of incipient amblyopia which disappeared as soon as the injections were stopped. The injections can be made intramuscular but also locally around the induration, the indolent glands, gummata or tertiary ulcerations. Hallopeau[11] recommends the use of hektin in the manner as above described.

We now know that all attempts to destroy the chancre by cauterization or excision in order to stop the spread of the infection in the system, have been futile because the spirochaeta immediately invades the lymph-channels from the place of infection. Hallopeau's method of injecting hektin around the initial lesion seems to open the way to new victories over syphilis. Where the spirochaeta can enter, hektin can also enter. Evidence gathered by the above named men, all well known to syphililologists all over the world, show that when hektin is injected early enough around the chancre, and the lymphangitis or indolent adenitis, it will stop the development of the secondary symptoms. Hallopeau has observed a patient cured by hektin who acquired a fresh infection.[12]

It must be remembered that all arsenic combinations are vasodilators so hektin should not be used when there is arteriosclerosis. Balzer advises against the use of hektin where the patient suffers from disease of the retina or nervous opticus.

I have been corresponding with Professor Ehlers in regard to hektin and he tells me that he has used the remedy in about 56-60 cases, is very well satisfied with it and considers it a slow but also a remedy to be depended upon. It is better adapted to office use than 606, the injections are painless and it can be injected as it is received in ampules, without any extraordinary preparations or mixing. It is made by the Hektin Company in Paris and no doubt any physician can obtain it either directly or through some reputable drug house.

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SPECIAL ARTICLE.

ESPERANTO IN MEDICINE.

Esperanto in its application to international relations between physicians, is undoubtedly making headway enough to make it probable that before very long it will have to be taken more seriously by the medical profession than it hitherto has been. The general progress already made among the peoples at large seems to be encouraging to the devotees of the "universal auxiliary language," and the marked success of the recent Sixth International Esperantist Congress at Washington, D. C., should be enough to convince even the most skeptical that there is "something in it." This congress, though not so strongly attended as regards numbers as any of the previous ones—owing, no doubt, to the fact that as Europe is far ahead of America in the acceptance of the language a European Congress is far more likely to secure a large attendance than one that involves a long sea voyage for the greater part of the devotees—was emphatically a triumph in many respects. It commanded a great deal of press attention, the Washington papers devoting a much larger proportion of their space to it than is usually allotted to conventions, save those of the most exalted bodies. It was officially supported by government representation from Brazil, China, Costa Rica, Guatemala, Honduras, Porto Rico, Persia, Russia, Uruguay, Spain, Mexico, Japan, the war and navy departments of the United States, and the States of Louisiana and Oregon, while Colonel Pollen, president of the British Esperanto Society represented King George V. Shakespeare's "As You Like It" was presented in Esperanto by the Hickman Players in the grounds of the Bristol School in a manner that elicited unstinted praise, not only for the histrionic merits of the presentation, but also for the melodiousness of the language, even to those who were able to follow it only by the aid of the original. An unofficial reception was given to the Esperantists in the Bureau of American Republics, in place of the intended formal greeting, cancelled in consequence of the death of the President of Chili, one of its ardent supporters. Various sectional bodies, protestants, catholics, freethinkers, physicians, lawyers, business men, bankers, pacificists, theosophists, post office employees, woman suffragists, and others, held special sessions, and an international ball, at which some twenty nationalities were represented formed, as at previous congresses, an interesting feature. A service in Esperanto was held in St. Paul's Protestant Episcopal Cathedral and a Special High Mass was celebrated at St. Patrick's Catholic Church. Among the delegates attending the congress twenty-two nationalities and thirty-five States of the Union were represented.

In relation to medicine there exists already an international association of Esperantist physicians, the *Tutmonda Esperanta Kuracista Asocio,* known familiarly as the T. E. K. A. According to its *Year Book* for 1910—that for 1911 is on the eve of publication—its strength was 628, although the society was founded only at the fourth congress in 1908, at Dresden. When less than three years after the direction of professional attention to Esperanto by the founding of such a society we see among the supporters of the language such names as those of Professors Borodin (Moscow), Breiger (Berlin), Boquel (Angers), Barthélemy (Nantes), Bergonié (Bordeaux), Bordet (Brussels), Bouchard (Paris), A. Broca (Paris), Balthazard (Paris), Chantemesse (Paris), Dor (Lyons), Demosthen (Bucharest), Diakonov (Moscow), Dubreuil (Bordeaux), A. Forel (Switzerland), Fournier (Paris), Gariel (Paris), Jeannel (Toulouse), Labarrière (Amiens), R. Lepine (Lyons), Landouzy (Paris), Magnin (Besançon), Mercier (Tours), Ch. Richet (Paris), J. Ribeiro (Brazil), Sabaraneau

(Bucharest), Soullier (Lyons), Teissier (Paris), I. Shiro (Japan), Vierordt (Tübingen), with other well known medical names, such as Dufour (Orleans), Elsenberg (Warsaw), H. Fulda (Frankfort), Freudenberg (Berlin), Garnier (Commercy), Hammer (Copenhagen), T. Heryng (Warsaw), C. Herrera (Zaraguda, Spain), Javal (Paris), Otto Kaiser (Dresden), Privat-docent Kinsberg (Stockholm), Col. Murai (Japanese army), H. Mendel (Paris), Privat-docent Niculescu (Bucharest), D. Nikitin (Zvenigorod), F. Novikov (Orsk), Oliviera (Rio de Janeiro), Ogata (Osaka, Japan), Petzoldt (Sayda), Pollitzer (Vienna), Privat-docent Popov (Moscow), Privat-docent Subbotin (Russia), Paul Rodet (Paris), and Privat-docent Wickman (Stockholm), it is surely time to consider whether there may not be more in it than meets the eye.

Internacia Medicino (*International Medicine*) is the title of the new official organ of this society, which made its first appearance on January 1, 1911. It is a well-known journal of European continental type, and is edited by Professor Dor, of Lyons, with the assistance of twenty-one collaborators in various countries and published by Thalwitzer, at Kötzschenbroda-Dresden, Germany. There are many notable things about it, of which not the least is that while most new medical journals start out, and often continue, by drawing on the indulgent aid of a volunteer staff, *Internacia Medicino* pays its contributors both for original articles and for translations and reports from the outset. The contents of this first number are Mechanical Antisepsis and "Mastisol." (a method of surgical dressing by means of a fabric soaked in a solution of mastich in chloroform), by W. v. Oettingen, of Wilmersdorf, Berlin; The Biologic Method of Clinical Examination (an address at the memorial exercises for Professor Ostrumov), by Privat-docent Kabanov, of Moscow; Visible Speech for Deaf Mutes, by Dr. W. J. Spillmann, of the Bureau of Agriculture at Washington; The Dental Clinic and Dental Surgeon, by Dr. Klein, director of the Dental Clinic at Ulm; obituary notices of Ernst v. Leyden and Henri Dunant; a note on Hedonal-Chloroform Narcosis; a summary of the announcement concerning "606," from the *Deutsche Med. Wochenschrift,* Dec. 8, 1910; four pages of abstracts; an article on the cost of modern travelling, with special reference to the requirements of medical thirsters after post-graduate information; and an address on the Alcohol Problem, by Dr. G. v. Bunge, professor of physiologic chemistry at the University of Basle. The rest of the journal is occupied by the official communications of the society. The annual subscription is $1.50 except to members of the society, who receive it free.

Other evidences of the progress of Esperanto in relation to medicine are to be found in the facts that a committee is at present occupied in drawing up a list of technical terms, which, however, are not new words, to add to the existing confusion of our already too much pluralized nomenclature, but follow the usual Esperanto method with regard to technical terms now commonly in use in varying dresses in the different national languages, by conforming the accepted Greek or Latin root to Esperanto phonetic spelling, and adding to the stem thereof the characteristic vowel which in Esperanto indicates whether a word is a noun, adjective, adverb, or verb. Thus diaphragm becomes *diafragmo;* measles (morbilli), *morbilo;* cocaine, *kokaino;* brachial, *brakia;* epilepsy, *epilepsio;* epileptic, *epilepsia;* epileptically, *epilepsie.* So simple is this method that any Esperantist who knows the very definite rules of word formation, which like the other rules in Esperanto grammar, are absolutely devoid of exceptions, can without hesitation form correctly all the technical terms, nominal, adjectival, verbal, adverbial, and composite, that consistently with sense can be derived from any idea expressed by a given technical term of international acceptance.

It is claimed, then, for Esperanto, and is in some degree demonstrated, that the language is systematic, easily learned in an incredibly short space of time, melodious, capable of giving adequate and accurate expression, in a form readily apprehendable by all to whom its structure and the subject matter are familiar (a postulate equally insisted on for the comprehension

of all technical matter in any language) to any idea that the mind can conceive; is expansible to an almost unlimited degree; and is adaptable to existing medical nomenclature with a minimum of disturbance and a maximum of internationality. Its outlook as an auxiliary tongue for communication with all foreigners of whatever kind in the near future is promising, and its progress in the medical profession is already astounding, seeing that out of the lists of *registered* Esperantists in all parts of the world—and for every Esperantist who registers, there are certainly dozens who do not, but are studying and using it —no less than some 2,000 are members of the medical profession, of whom upwards of 600 have banded themselves into an international organization, and are publishing a monthly medical journal of good calibre. Further, at least two governments, New Zealand and Brazil, are using it for such of their official publications as are especially addressed to foreign readers, and many commercial firms in Europe publish their trade catalogues and other literature in it. Among these, as especially pertinent to the subject, may be named, Messrs. Burroughes, Wellcome and Co., who issue two price lists in Esperanto, "Konataj Medicinaj Produktoj"—A small double leaflet of four pages contains a list of the various cod liver oil and malt extract preparations and a list of photograhic tabloids, while a large twelve page booklet, offered only to the medical profession, embraces a larger collection of medical preparations. Business is a cold blooded proposition as a rule, and it is not usual to find successful business firms throwing money away out of mere sentiment and without reference to the probability of its ultimately making good returns. When, then, we consider that all this progress has been made in three or four years, and reflect that the general adoption of Esperanto as an auxiliary language in addition to the mother tongue, would make *one* translation from the original of any important medical contribution all that would be necessary to reach every kind of foreigner, it must surely be conceded that in asserting that before long Esperanto will have to be taken more seriously by the medical profession of all countries than it hitherto has been, we are not overstating the case.

OBITUARY.

The Death of Dr. Janeway.— Universal sadness was caused by the announcement on February 10th that Edward G. Janeway had passed away at his country home in Summit, N. J. For some time Dr. Janeway has been in poor health but it was not thought that he was in any immediate danger. Consequently, his death was a pronounced shock to the community and especially to those of his colleagues who had looked forward to the early resumption of his professional activities.

For many years Dr. Janeway has held his place at the forefront of the country's leading practitioners, and during all this time his life and fine generous character have constantly reflected the best traditions of the medical profession. Nothing small or mean ever attracted him and probably no medical man of equal prominence in the practice of medicine has been so free from petty entanglements and controversies. True to his calling, Dr. Janeway always gave to the poor man the best that was in him in knowledge and service. Indeed, the sufferings of the poor and lowly always appealed to his great sympathetic heart and while no American physician has been more frequently consulted by America's famous and wealthy, no little part of his best work has been done among the obscure and poverty stricken. That no profit or acclaim was to accrue from such work made not the slightest difference. It was simply the true physician responsive to suffering, pain and distress where he found them, oblivious to every thought of personal gain or aggrandizement in the presence of humanity's fundamental needs.

In public health matters Dr. Janeway always took a most active interest, especially in those great questions of sanitation presented by tuberculosis and the housing problem. His counsel and advice were highly valued in every consideration of these important subjects. His judgment was so sound and his ideas so original that they never failed to illumine and advance any discussion in which he took part.

It was probably as a diagnostician that Dr. Janeway obtained his greatest reputation, and his ability in this direction not only repeatedly redounded to his own credit but gave his colleagues unlimited aid in solving many of their most difficult problems. From the beginning of his career in medicine he had enjoyed not only a remarkable clinical experience, but brought to his opportunities in this direction such exceptional powers of observation and deduction, that he was often able to determine and interpret clinical expressions of disease that would pass by others unnoticed.



EDWARD G. JANEWAY.

"Dr. Janeway was born Aug. 31, 1841,* in Middlesex County, N. J., and was the son of George Jacob and Mathilda (Smith) Janeway. His father was the second son of the Rev. Jacob Jones Janeway, and was

*From N. Y. Times.

a physician. He made his academic studies at Rutgers College, and was graduated in 1860. In the following winter he entered the College of Physicians and Surgeons at Columbia. At the outbreak of the civil war there was great need of surgeons, and even students with little medical experience were in demand in the hospital camps. Young Janeway served in the United States Army Hospital at Newark, N. J., during 1862-3 as an acting medical cadet. He returned to college later and was graduated with a degree.

On being admitted to practice he established himself in this city. In 1866 he was appointed curator of the Bellevue Hospital Medical College, and held the office for six years until he became the visiting surgeon in 1872. He was also visiting physician to the New York Charity Hospital from 1868 to 1872. From 1872 to 1876 he was Professor of Pathology and Anatomy and demonstrator of anatomy from 1876 to 1879 at the Bellevue Medical College. From 1881 to 1886 he was Professor of Diseases of the Mind and Nervous System, and in the latter year assumed the professorship of medicine. He held this last chair until 1892, when he went to the New York University Medical School in the same capacity. He was made Dean in 1898, and held the office until 1905.

Dr. Janeway had held several important public offices. He was a Commissioner in the Health Department from 1875 to 1881. He became a member of the committee of conference between the Health Department and the Academy of Medicine in 1887. He was a member of the Advisory Committee of the Chamber of Commerce during the cholera scare of 1892, and was made a delegate to the sixteenth International Medical Congress at Budapest in 1909.

Dr. Janeway at the time of his death, was consulting physician to many hospitals, among them Mount Sinai, the Presbyterian, Bellevue, St. Luke's, St. Vincent's, the French Hospital, the Woman's, the Hospital for Ruptured and Crippled Children, St. John's Hospital, Yonkers, and J. Hood Wright.

He was the author of a number of medical works. He prepared the "Pathological Reports of Autopsies Made in Bellevue Hospital," and was the author of "Clinical Points in the Diagnosis of Hepatic Affections." He was a Vice-President of the New York Pathological Society in 1874. He was at one time President of the New York Academy of Medicine, and a year ago was President of the National Association for the Study and the Prevention of Tuberculosis. He was a member of the New York Academy of Medicine, the County Medical Society, the Century, the Tuxedo, the National Arts, and the City Clubs. He has had conferred upon him the degree of LL. D., from Rutgers, Columbia and Princeton University.

Dr. Janeway was married in 1870 to Frances Strong Rogers, daughter of the Rev. E. P. Rogers of New York. He is survived by his widow, his son, Dr. Theodore Janeway, two daughters, Mrs. W. T. Wisner, 2d, and Mrs. John David Lannon, and two brothers, George H. Janeway and Col. J. J. Janeway of New Brunswick, N. J."

His death leaves a void that will not soon be filled. The world suffers much from the loss of a man of such fine ability, noble traits and splendid achievements. It will not soon forget so capable a physician, so true a friend, so good a man. Time cannot dim the memory of one who lived so well and accomplished so much.

ETIOLOGY AND DIAGNOSIS.

The Passage of the Intestinal Mass.[1]—It is well known that the bowel evacuations are not to be relied upon as accurately indicating the intestinal condition. As Herschell in a recent article tritely said, "it is not at all unusual for a patient to have one stool a day and in consequence consider the bowels to be regular, whilst all the time there is a latent constipation with retention of fecal matter, giving rise to chronic ill-health from auto-intoxication."

The charcoal or carmine capsule test is recommended as being the most accurate as well as the most easy and simple means of determining the true state of the bowels and probable location of any regional difficulty. The following are the clinical facts that the test reveals:

(1) In cases of diarrhea the passage of the charcoal in the normal time would tend to show that the peristalsis in the small intestine

[1]Dr. Geo. Herschell, *The Lancet*, London, Eng., May 21, 1910.

was not increased and that the disturbance was in the lower portion of the large intestine.

(2) In diarrhea the quick appearance of the charcoal or carmine in the stools would suggest that the trouble was in the small intestine or ascending colon.

(3) In a patient who has daily motions a dose of charcoal given at breakfast should appear in the next morning's stool. If it fails to do so there is latent constipation. If, after the stool lavage of the sigmoid brings away black feces, there is retention in the lower bowel. If it does not do so the delay is in the cecum, ascending, or transverse colon.

(4) In a patient who does not have a daily motion the removal of black feces by lavage of the sigmoid on the morning following the administration of the cachet would show that atony or dilatation of the lower bowel was an important factor in the production of constipation.

(5) Appearance of black stools for several days after the administration of a dose of charcoal will point to atony of the bowel and latent constipation.

(6) By administering a dose of charcoal or carmine at the commencement of a test intestinal diet, we are able to mark off the moment when it commences to appear in the stools, and when we may safely use them for purposes of examination.

(7) We may mark off and obtain the total feces corresponding to a test diet extending over a fixed period by giving a carmine cachet at its commencement and termination (provided that there is no latent constipation).

TREATMENT.

The Technic of Circumcision.[1]—In performing this operation, says Freiman, the surgical skill depends upon the rapidity of the operation, the avoidance of hemorrhage, and the proper use of an anesthetic.

I perform the operation in my office as follows: The patient is placed on the operating chair in the recumbent position. I next examine for any adhesions between the prepuce and frenum, and if any are seen to exist they are quickly broken up. I say quickly so that as little pain as possible is produced. The entire penis is then thoroughly washed with tincture of green soap and water, followed by sterile normal saline or a 1 in 5,000 bichloride of mercury solution. A piece of sterile tape is then wound around the root of the penis. As to anesthetic, I prefer local to general anesthesia, and to the various local anesthetics I prefer two per cent. cocaine to which about twenty drops of adrenalin, 1 in 1,000, has been added to each drachm of the cocaine solution. Inject the cocaine solution as follows, using a syringe which has been previously sterilized. Grasp the body of the penis and inject the cocaine into the prepuce midway between the corona and meatus. This should cause a bleb. Follow this bleb with others so that there is a ring of odema around the penis, care being taken that the urethra is not injured. Next inject some cocaine into the upper part of the frenum. No more than sixty minims of the solution should be used. After about two or three minutes pull the prepuce to its full length so as to expose the juncture of the mucous membrane and skin; apply a hemostatic forceps anteriorly and posteriorly at the junction. Now feel for the tip of the glans penis and one-eighth inch below apply another hemostatic forceps obliquely outward. With scissors cut all tissue between these two forceps. The skin will be seen to be retracted and exposed mucous membrane still covering the glans penis. This mucous membrane is to be removed with the scissors to about one-eighth of the corona except at the frenum, where a small triangle must be left for fear of wounding the artery. Any bleeding vessel should be clamped and tied. For suture black silk is best. The first suture should be about corresponding to the middle of the anterior part of the corona, then one stitch at the frenum, where if accurate coaptation is not possible at first remove part of the skin to correspond to the part of mucous membrane remaining there. Then two stitches on the sides, and these as a rule will suffice. However, accurate coaptation must be gotten so that the number of sutures varies. The surface is then examined for any excessive bleeding.

For a dressing I personally prefer powder. Stitches can, as a rule, be removed in about four or five days. Needless to say, strict asepsis should be observed as to instruments, suture, etc.

Pyelitis in Pregnancy.[1]—Chace considers this subject in careful detail and gives the following predisposing and exciting causes. The predisposing causes are given as follows: 1. Pressure on one or both ureters by the gravid uterus. 2. Infection of the urinary tract. 3. Complication is often alleged as a possible cause, *Bacillus coli* being here the most frequent exciting cause. 4. Infectious diseases. 5. Traumatism, said by MacFarlane to be more frequent than is generally supposed. 6. Physical conditions inducing lowered vitality. 7. It appears to be slightly more prevalent in primiparae. 8. From the fifth to the eighth month is the usual time of onset. The exciting causes are: (1) gonorrheal infection; (2) pyogenic micrococcus infection; (3) *Bacillus coli* infection; (4) tuberculosis. In the case of the latter, suspicion may arise of its pre-existence before the pregnancy. Gonorrheal and micrococcal infections are more probable, but the literature does not give data for percentage statement. The author's find-

[1]Maurice Freiman, M. D., *N. Y. Med. Jour.*, Feb. 11, 1911.

[1]A. E. Chace, M. D., *Jour. A. M. A.*, Jan. 9, 1911.

ings seem to indicate that the *Bacillus coli* infection is most frequent. The diagnosis is that of a pyelitis developing for the first time during pregnancy and usually disappearing before or during the puerperium. The onset may be insidious or stormy, and the course depends on the exciting cause and treatment. In forty cases collected by the author, premature labor occurred four times, was induced once, nephrotomy was performed ante partum once, and four times post partum. The rational treatment supported by experience is: (1) absolute rest in bed; (2) fluid, preferably milk, diet; (3) mild catharsis; (4) hexamethylenamin, 0.5 gm. every three hours day and night in a full glass of cold water—the frequency of dosage is lessened as symptoms improve; (5) posture to relieve the ureter on the affected side, if the infection be single; (6) interruption of pregnancy is seldom if ever necessary; (7) autogenous vaccine treatment is favored by Hicks, future experience may prove its value; (8) topical applications in the bladder or pelvis of the kidney of salts of silver or other like antiseptics seem to be of service in severe cases, but in average cases of coli infection hexamethylenamin will alone suffice.

Some Conclusions Concerning the Ehrlich-Hata Treatment of Syphilis.[1]—Elsner gives an account of his visit to Ehrlich in Frankfurt in July 1910, and of his subsequent observations of the treatment of syphilis in Berlin, in Wechselmann's clinic at the Rudolph Virchow Spital, and in the Kraus clinic at the Charité, under Citron. Also details are given as to the method of preparing "606" for intramuscular injection, and the preparation of the patient. As to contraindications to the use of "606"—sickness of any kind, particularly acute infections, including ordinary colds, bronchial disturbances and acute indigestions, positively contraindicate its use. Degenerative diseases of the nervous system *far advanced* not only contraindicate the treatment, but offer direct danger. These include cases of paresis and locomotor ataxia, with associated optic neuritis. In any case showing optic neuritis or other pathologic changes in the background of the eye there is danger of sudden increase of ocular lesions or arsenical blindness. Aged and decrepit patients with advanced organic disease of vital organs, particularly affecting the cardiovascular system, arteriosclerosis, aneurysm or cerebral apoplexy, should never be injected. All organic diseases of nonsyphilitic origin offer contraindications. After referring to the Wassermann reaction, to the varieties of syphilitic lesions treated, to hereditary syphilis, and to the relative merits of intramuscular and intravenous injections, Professor Elsner draws the following conclusions:—

1. The treponema (spirocheta pallida) is positively destroyed, and the living contagion of syphilis is promptly removed by the Ehrlich-Hata remedy.
2. The preparation "606" promptly and favorably affects visible and palpable syphilitic lesions. It also removes deep-seated gummata.
3. The remedy stays the destructive and onward march of syphilitic ulcerations and causes their healing in a surprisingly short time.
4. It is more rapid in its effect on specific disease than any other known remedy.
5. It is likely to prove more valuable than any other remedy in the treatment of the specific diseases of most internal organs.
6. It cannot replace cicatricial tissue, the result of nature's reparative processes; neither does it affect favorably chronic degenerative diseases of the nervous system, as paresis and system-diseases of the cord, in which there is a break in the continuity of nerve structure, though in some cases it seems to influence favorably the continuous crises of locomotor ataxia.
7. In all cases it causes a leucocytosis and the formation of antibodies.
8. It materially modifies, and in most cases ultimately negatives, the Wassermann reaction.
9. It unquestionably floods the circulation with endotoxins resulting from the death of millions of spirochetes, and in all probability an antitoxin is developed in the blood serum. These facts must be thoroughly considered in connection with the treatment.
10. In acute and threatening deposits in vital organs the effect of "606" will often prove life-saving because of its prompt action, and for that reason it is preferable to the iodides or mercury.
11. It ought not to be given to ambulatory patients; neither is it safe in the hands of the careless or those who have not seen it used and learned the difficult method of its preparation for injection.
12. The hospital, where all things required in the preparation of the mixture of "606" can be sterilized, and where the centrifuge can be used, is preferable to any other place for its injection.
13. Patients injected should be kept quiet and in bed during seven days under close observation, and for a longer period if indications demand.
14. Second injections, if indicated, should not be given in less than eight weeks after the first.
15. Contraindications are as stated above.
16. Congenital syphilis demands the treatment either directly or indirectly as suggested in the paper.
17. The living contagion is destroyed by "606"; hence its early use can prevent the spread of syphilis.
18. In occasional well-selected cases the use of the iodides after the method of Wechselmann will increase the efficacy of "606" when second injections are necessary. From two to three weeks should elapse after thorough mercurial treatment, when this has been used, before the injection of arsenobenzol.

[1]Henry Elsner, M. D., Syracuse, *Jour. A. M. A.*, Dec. 10, 1910.

19. In spite of the fact that nearly all agree that the effect of "606" is magical, sufficient time has not elapsed to justify the conclusion that a single injection of the drug will prevent what we now recognize as the secondary and tertiary stages of syphilis.

The Treatment of Amenorrhea.[1]—In the amenorrhea of young women permanganate of potash may restore menstruation after the lapse of two years or longer; sometimes it may restore the discharge within a few days, or, the immediately succeeding period being missed, the one next may appear in due course, or it may take six weeks or even two months before the drug succeeds. This salt is useful also in cases of scanty, and perhaps delayed, menstrual flux, the interval varying from six weeks to two months. The permanganate in a case such as this brings on the period at its proper time, together with an increase in the flow. It is useful, also, when a chill prevents or delays the menstrual flow; thus, in the case of a woman who had prevented menstruation by taking a cold bath on the day when it should have appeared, the usual symptoms arising from arrest of the catamenia made their appearance: three doses of the permanganate having restored the flux, she discontinued the drug, whereupon the discharge ceased. She again returned to the medicine, and after another three doses the flow reappeared and progressed naturally. Permanganate of potash may be given daily until the catamenia appear and complete their course, when the salt should be discontinued; it should be recommenced four days before the access of the next period, and continued till the flow ceases. Permanganate of potash is useful in girls who, on leaving the country and coming to town, suffer from arrested menstruation; also in the amenorrhea induced by sea sickness and in the case of women, between 30 and 40, generally married, who whilst rapidly increasing in weight suffer from a diminished menstruation. Permanganate of potash is given up to one, two, or more grains in pill-form thrice daily, after meals. Make the pills according to the following formula:—Permangate of potash, gr. 1; kaolin and petroleum cerate, in equal parts, q.s. Certain observers deny that the permanganate produces abortion, but some cases of abortion apparently due to the drug have been noted.

Treatment of Chlorosis.—Von Noorden (*Medizinische Klinik*) treats this affection on these lines:—

(1) *Hygienic.*—Open air and breathing exercises are necessary. The latter correct the abnormal portion of the diaphragm, act upon the retracted lungs, and improve the circulation.

(2) *Medicinal.*—Iron preparations are prescribed in order to stimulate the hematopoietic organs and to promote the renovation of the blood. Sometimes iron produces obstinate constipation, which must be dealt with, not by purgatives or enemata, but by suitable dieting. Some physicians believe that they avoid this trouble by injecting the drug under the skin. This is an error, because iron is eliminated by the intestine, not by the kidneys. If iron is not borne well, arsenic must be used. Arsenical preparations often cause gastric disturbance, and should be given by hypodermic injection, using the cacodylates, atoxyl, or others. Arsenic is not always effective and sometimes sets up toxic symptoms, such as neuritis, eye troubles, polyneuritis, and herpetic eruptions. Care in using it is necessary. The arsenio-ferruginous waters (Levico, Roncegno, Val Sinestra, etc.) are effective but constipating. They are, therefore, not so useful as the arsenical salines.

(3) *Dietetic.*—Three meals a day of proteid substances must be taken in the form of eggs and meat. All vegetable diets poor in albumins, recommended by some, must be set aside.

[1] *The Practitioner*, London, Eng., February, 1911.

THERAPEUTIC NOTES.

Iodine in Surgery.[1]—Walker concludes his exceedingly practical paper on the uses of iodine as follows:

1st. Always secure as dry a condition as possible of the skin, bone-cavities, and all other cavities exposed to the air. This is especially important in emergency work.

2d. Always use full strength on all mucous membrane where inflammation is due to infection. It must be remembered that all such cases should be drained with gauze.

3d. Whenever used in any strength in closed cavities, such as the urinary bladder or uterus, either thoroughly douche with saline solution and hydrogen peroxide or insert a drain. (It is better to use a small gauze drain.)

4th. Do not use iodine in combination with other drugs. It should always be used alone. If it is desired to dilute the tincture, use water.

5th. Do not use a hypertonic salt solution, Wright's solution, or hydrogen peroxide for 12 to 24 hours after using iodine.

6th. Never use the full strength in the vagina or rectum.

7th. In all indolent wounds or ulcers, apply a bandage as nearly air-tight as possible for 12 to 24 hours after a thorough application of iodine.

[1] F. E. Walker, M. D., Hot Springs, S. D., *Jour. of the Minn. State Med. Assn.*, Feb. 15, 1911.

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Genius and insanity seem to be linked together in the popular mind, though no two things could be more widely separated. A few men, Lombroso for instance, have made an extensive study of the psychic and nervous characteristics of great men and have concluded that genius is a neurosis allied to epilepsy, while the few men of genius who have developed insanity have given rise to a widespread opinion that every genius is insane. The absurdity of all these speculations arises from the failure to realize that mental phenomena are the products of brain tissue, and that when we find extraordinary mental endowments it invariably means that the man has been born with an extraordinarily developed brain. There is almost always some evidence of inheritance, indeed a study of British great men long ago showed that almost every one of them appeared in a family already noted for achievements. Those born to mediocre families are so few in number as to have no weight on this generalization, and even they are generally of the type in which only one brain center has been developed so that the mental greatness is strictly limited to a very small sphere. Anatomists have rarely been able to secure brains of great men to find out wherein they differ from the brains one finds on the dissecting table, which are almost invariably types of men who have so utterly failed in the struggle for existence that their bodies are consigned to the Potter's field. Besides, the brain is so difficult to preserve and study that it has been shamefully neglected in favor of those organs coming within the sphere of practical surgery and medicine. What little has been found out so far, leaves no doubt whatever of the material basis of intellectual greatness. Spitzka has already proved that such brains are endowed with a very highly developed system of fibrous connections, which coordinate the brain cells. This is the main characteristic which distinguishes the human brain from all others, and we should expect it to be most marked in the highest men.

The nervous instability of the unusual man is an entirely different matter than the neuroses. The highly developed white matter, makes each brain cell more efficient and its activities must be greater than in the ordinary man whose mental sluggishness is a sign of his lower organization. The instability of the great is therefore a perfectly normal functioning of perfectly healthy tissue and no more a sign of disease than is the activity of a humming bird as compared with the slowness of a buzzard. On the other hand delicate and intricate machinery is easily disarranged and this is the penalty of greatness, for such men are annoyed or even disturbed by influences

which are not even felt by the phlegmatic. It may be true therefore that a slightly higher percentage of great men do become neurasthenic or insane, but if they could have been saved from the injury they would have remained healthy—a rule which applies to the majority of all cases of insanity. The very great are very abnormal; that is, they do not resemble the average and they must be expected to present unusual mental phenomena, which therefore are not signs of disease but of unusual organization. Sometimes there is parental instability—perhaps always—and there is some evidence that this characteristic is the reason why the brain has developed so extraordinarily in the offspring. Sometimes, too this instability is itself a result of adversity, not necessarily a normal variation, and herein is the sad side of greatness—a few cases are abnormal because of injuries, such as toxemias which are known to have an infinite variety of effects upon a developing ovum. The vast majority of great men, though abnormal by reason of their greatness, and perhaps so unstable as to be subject to nervous injuries, are absolutely healthy. So let us have an end of the absurd discussions linking greatness with insanity or disease.

The urgent need of brain studies is the main point brought out by the discussions of greatness. It is well known that intelligence increases with the brain weight, after making due allowance for the fact that the larger the body the larger the brain; yet when it is found that some man noted for ability in a tiny sphere had a brain smaller than the average, some writer rushes into print with the assertion that intelligence has no relation to brain weight, utterly ignoring the fact that the men upon whom this absurd generalization is based, were practically imbeciles in everything except their little specialty. Recently, Prof. Wilder of Cornell has called attention to the fact that the average negro brain is two ounces lighter than the European, and this two ounces fully accounts for the inability of negroes to advance civilization. There are variations, to be sure, so that some few negroes are more intelligent than some low whites, but as a race they are down for the same reason the monkeys are—lack of tools to think with. The pedagogs who assert that education will cause more tools to grow, are as foolish as the horsemen who expect training to give a racer more legs. There is, then, a vital necessity for more studies of all kinds of brains, great and small, to find out wherein some men are born great and others achieve it. At present, less is known of the brain than any other organ of the body, and we as a nation are of the opinion that a brainless immigrant utterly unable to think, is the voting equivalent of the great man. The anatomists are bound to make a profound influence on our political system if they will only get to work on this vital study. Every man of intelligence should will his brains to those who can use them after he has no further use for them. Then in time, we will find out whether we can devise any way of keeping a vote out of the hands of those who cannot use it. An educational test is absurd, because many a rich imbecile has careful instruction, while an intelligent son of poor parents may be ignorant though really of great intelligence.

The prevention of insanity is alleged to be possible in at least fifty per cent. of cases which reach the hospital, in the others the treatment should have begun with the

grandparents. All this is merely saying that if people could avoid the causes there would be no mental disease. Unfortunately for this optimism, many of the causes are inseparable from the struggle for existence, particularly in the underdog. The strongest survive conditions fatal to the weakest and the process is as old as man. Even after nature wipes out the frail, the survivors enter a new struggle under new conditions and the brutal elimination is now for the weakest of those who were the winners in the former environment. Life is in reality a series of trial heats, with the finals in the remote future, but when civilization is so advanced that every baby survives to rear a family in turn, there will be no races. In the meantime there are undoubtedly some removable causes which will preserve half the competitors who now fail. They are not mental "weaklings" but have been physically weakened by bad training or better say unhygienic living. These are the cases now happily receiving attention from alienists who assert that the preliminary symptoms are so clearly distinguishable that there is no excuse for overlooking them—and the alienists are right in asserting that prevention of breakdown is possible. It seems that the general practitioner must be depended upon to discover the incipients, for the specialist is consulted later as a rule.

The psychologic clinics now being established the world over, to study the causes and prevention of insanity are bound to do enormous good in the way of educating us to discover incipients and the causes of the troubles. The chief benefit is perhaps in the line of educating the public to the view that there is less disgrace in this trouble than in an avoidable infection—say typhoid—and in convincing people that they must seek advice for strange symptoms. Of course we must not create a race of introspective cranks, yet there is little chance of that if people are healthy. The proof of being in good condition is the fact that we never think of ourselves as there is no signal attracting our attention to some complaining nerve. Wisdom consists in recognizing the signals, not creating them.

It seems therefore that general instruction in proper ways of living will accomplish a world of good in preventing insanity, and it must be said that in spite of much general ignorance, there is a steady improvement. We instinctively avoid what we formerly endured and we live longer and better every generation. There is no ground for the frequent assertions as to the increase of insanity, indeed the figures point the other way. Incipients are treated which formerly were allowed to become chronic and the chronics live longer. Thus there are more under treatment, but fewer arise. The new hygienic movement will still further lessen them, and the psychologic clinics cure them. Though mental disease may never disappear, the cases will always grow less in number and there is where we can be very optimistic. The new movements deserve encouragement.

The Health Officer of the Port of New York holds a position of grave responsibility. New York, as the gateway through which all but a few of the immigrants to this country must necessarily pass, has to be guarded with a skill and fidelity that few appreciate. Secure in their ignorance, the great majority of the citizens of the United States never stop to realize the splendid service constantly being rendered by the Health Officer of the Port and the efficient organization under his control.

With a vigilance duplicated hardly anywhere else in the world—certainly not exceeded—every ship, every cargo and every individual is examined by trained experts, and either eliminated as a conveyor of contagion or detained for further observation. Every suspicious condition is carefully investigated and submitted to a scrutiny that is ably supported by the most expert knowledge of scientific medicine. Guesswork is unknown and no chances are taken. The slightest doubt or uncertainty means quarantine. The word or dictum of the Health Officer is absolute and final. The safety and welfare of a nation depend on his decision, consequently he must be all powerful. At the same time, to cause the least unnecessary delay to shipping, the transfer of passengers, etc., it is essential that the health officials be competent to make accurate decisions as quickly as possible. That this greatly increases the responsibility of the medical inspectors will be at once apparent, but the fact that no epidemic or pestilence has ever occurred in the country as a result of inefficiency or laxity of the health officials of the quarantine service, tells conclusively of the way such responsibility has been met. As a matter of fact no better equipped or more capable physicians can be found anywhere than those connected wtih the quarantine service of the Port of New York under the direction of Dr. Doty. The same thing can be said of the Marine Hospital and Public Health Service the country over and the people of this broad land are lucky to be guarded by a body of men so well qualified for the difficult and dangerous work they have to do.

Speaking of Dr. Doty, the able physician who holds the position of Health Officer of the Port of New York, too great praise cannot be given him for the fine tact and ability with which he discharges the duties of his trying office. As previously stated, the people do not know how important a work is being done by the health officials who guard them. As the chief officer, Dr. Doty necessarily carries a great burden, but the splendid service he has rendered during all the years he has filled his office, and the learning and skill with which he has directed the affairs under his jurisdiction, point eloquently to his ability not only as an executive but as one of the world's foremost sanitary and medical experts. When Dr. Doty first entered upon his exacting duties, the science of medicine, particularly in matters pertaining to bacteriology, sanitation, and prophylaxis, had not progressed to where it is today. Much that now is common knowledge and well established in sanitary circles—was then little understood or totally unknown. The situation called for a man who not only could realize the responsibilities, but one who could grow with the world's sanitary progress and grasp its opportunities. In fact, a big man was needed, one big mentally with unlimited energy, courage and all the other attributes that were obviously required. How well Dr. Doty has measured up to one of the most responsible and difficult positions in the world today, is told by the results he has accomplished. Without ostentation or any pomp of power, Dr. Doty has stood on the firing line directing his little army and constantly engaged in warfare with the insidious forces of infectious disease. In spite of the hordes of ignorant, unwashed and vermin-ridden immigrants that have sought entrance to our fair country, the guardian at our gate with his able assistants, has effectively protected us against epidemic and scourge. Although the task

has been colossal and has called for a vigilance, a knowledge and a courage that even the keenest, the most capable and the bravest might dread to exercise, he has never faltered. There is no way of estimating the value of the services rendered by Dr. Doty and his assistants. But it takes no vivid imagination to picture the frightful results, had his vigilance relaxed or his methods been less effective. So quietly and orderly has his work been done that almost no one has had any grasp of its importance or scope. Its very efficiency has made it obscure, at least as far as the general public were concerned. But those who have known have been glad—glad for the safety they have enjoyed, and glad that Dr. Doty was the man at the gate—in common parlance, "the man on the job."

Report of a successor to Dr. Doty comes like a bolt from the blue sky! It was only a brief newspaper item to the effect that since Dr. Doty's term of office was about to expire, Brooklyn politics were pretty certain to lead to the appointment of another physician as Health Officer of the Port of New York, but those few words portended greater disaster than usually attends the catastrophe given "a full page spread." Supersede Dr. Doty! Can it be that the patronage system dare work such a crime? In plain, unadulterated language to fail to reappoint Dr. Doty would be a crime affecting the whole American people. His knowledge, ability, training and experience are a national asset. However capable and learned any proposed successor might be he could not hope to fill Dr. Doty's place until he had been schooled in the work, the problems and the hundred and one details that have been Dr. Doty's daily program for so many years. This is no reflection on any one's ability. It is simply common sense appreciation of the value of a training and experience acquired under conditions that probably will never be repeated. Dr. Doty has grown with the service. He began his work under conditions that will never be seen again. The training resulting from meeting these conditions, studying them and correcting them has been of inestimable value. Added to a comprehensive knowledge of present day methods of prophylaxis, which Dr. Doty more than any other one man has helped to evolve and create, and it can readily be seen that no other American physician has the equipment that Dr. Doty has for filling the position of Health Officer of the Port of New York.

Dr. Doty has fortunately been free from political domination. With complete disregard of politics, he has had but these objects before him, to detect communicable diseases, to conquer them and to prevent their gaining entrance to the country. *He has never failed,* and the protection given not only to New York City, but to the whole United States is a factor in our national welfare and prosperity. Although it would take the calamity that would surely follow the slightest withdrawal of such protection to make the average citizen realize its importance to business and every other interest, we believe every intelligent person will see the menace of placing a new man in Dr. Doty's place. The medical profession are proud of Dr. Doty's work. While all the credit of his success is due to him as an individual, his results necessarily bring honor to the whole profession.

We believe we voice the sentiment of every physician as well as that of every thinking person when we say that to fail to reappoint Dr. Doty will be a national calamity. The whole country to say nothing of

the greatest city of the new world needs him, what he knows, his talents, his skill, his experience, his personality—everything that goes to make up the man—physician—sanitarian—leader, who has stood with his little group of assistants at the gate of our country, and beaten back or rendered innocuous every skirmisher of the forces of pestilence or epidemic. As long as he can and will he should remain the "Captain of the Gate."

The dangers surrounding sanitary and laboratory workers have again been emphasized by the sacrifice of another useful life. Dr. Ashley, a physician connected with the quarantine station is the latest victim. For some time this capable young medical man had been engaged in the investigation of several cases of cerebro-spinal meningitis that had been detected on certain incoming ships. Through his studies the character of the suspected cases had been definitely established. Fearlessly he had worked on, constantly exposed to the most virulent infection. Somebody had to solve the problem and when it fell to his lot to undertake the work, no matter how distasteful, disagreeable, and dangerous it was he never hesitated. Infection followed and in spite of every effort he died, adding one more name to the martyrs of science. No soldier in the midst of warfare who undertakes the deadliest feats ever exhibits a finer quality of courage than those who battle daily with the forces of disease. Unlike the soldier, the laboratory worker or sanitary expert does not have the mental excitation and stimulus of actual combat. For them there are no trappings of war, no shouts of the multitude, no glamour of actual conflict. Their labors are done under the most sordid and commonplace conditions. But graver risks are never run, nor greater chances ever taken than by these heroes of the laboratory or isolation hospital. And when as all too often happens, one of these heroes falls in the struggle, there is no outcry, no pause to estimate the dangers. Almost mechanically the ranks close up, someone picks up the work where it was halted and the ceaseless conflict is on again. If there is a nobler courage, a truer patriotism or a finer devotion to duty, the records fail to show it. No humble words of ours can adequately express the admiration we feel for Dr. Ashley and men of his stamp. Such a death is indeed to be envied. But no less honor and credit belong to those who go on facing death each day without flinching, or shirking a single duty. It is men like these who represent the best ideals of the profession and prove to the world that in the modern conflict with disease the skirmish line is no place for the weak and timid.

An explanation.—On page 167 there will be found a communication from Dr. M. M. Lucid informing us that his seeming unauthorized use of Dr. Crutcher's article was due to a stenographer's error. Such being the case we extend to Dr. Lucid our sincere regrets that circumstances should have placed him in a position so open to criticism. There was nothing connected with his remarks to lead to any other conclusion than that which was drawn. Although his discussion was printed in the Dec. 24th issue of the *Jour. A. M. A.*, there has been no correction or explanatory statement in our esteemed contemporary to date. We, therefore, knew nothing of Dr. Lucid's correspondence with Dr. Crutcher, and we had nothing but the apparent situation to

guide us when our editorial, "A Lucid Parallel" was written and published. We are glad to learn that Dr. Lucid had previously satisfied Dr. Crutcher, that the apparent injustice was unintentional and wholly attributable to a mistake.

Dr. Lucid must have noted that our editorial was free from malice or ill temper. Our principal feeling was sorrow, for the act his stenographer's carelessness or oversight made him appear to have committed, was not only a severe blow to our ideals, but placed a stigma on the whole profession.

In all sincerity, we extend to Dr. Lucid our honest regrets that he has been subjected to criticism he did not deserve. We believe he will absolve us from the slightest intention to accuse him falsely and will understand that the situation as we saw it left no other interpretation than the one we gave it. We are glad that facts unknown to us at the time the article was printed, place the situation in a different light and free him from the suspicion of intentionally appropriating another man's words without proper credit.

Alcohol as a cause of disease is falling from its high place on account of the more critical investigations of recent years. When the alienists found a history of excessive indulgence in the ancestors of most of the insane, it was at once decided that liquor was the main cause, but some heretical iconoclasts most disconcertingly called attention to the equally prevalent ancestral alcoholism in every other disease and even in the healthy. It is now becoming fashionable to deny the old dogma in toto. So many such statements are appearing in current medical literature, that it is now time to sound a warning note against the evident tendency of the pendulum to swing back too far, as we can already detect an inclination to impute benefit to alcohol where it is essentially harmful. In a most excellent paper by Hultgen in the *Journal of the Amer. Med. Ass'n* (July 23, 1910) it is shown that nerve lesions are well nigh universal in alcoholics, and although it is now accepted as a fact that some kind of nervous abnormality is generally the cause of the resort to alcohol, we can not escape the conclusion that the ultimate result is greater abnormality—and much greater than in the more resistant stable nervous tissue of the normal man. That is, those who have most desire to drink are the ones most damaged.

The old ideas as to the effects of alcohol on the heart, arteries, lungs and kidneys seem definitely disproved by such investigations as Hultgen's. Not only that, but there is considerable evidence that in a few of the conditions usually imputed to alcohol, such as the scleroses and tuberculosis, the excessive indulgence is not found to have any effect whatever either as cause of the disease itself or as hastening its progress. This is diametrically opposite to the conclusion of some of our ablest phthisiographers, and it is another of the innumerable instances in which statistics may be misinterpreted. Some, indeed, have flat-footedly stated that alcohol prevents some of the sclerotic conditions it was once believed to cause. It is now stated that as the drug is a diuretic it actually aids in eliminating waste products and that the drinker is not so liable to certain chronic toxemias as the abstainer. One generalization seems to be safe, the membranes absorbing the alcohol are always seriously damaged and those

eliminating it are not—gastro-enteritis being almost universal in chronic alcoholism. Even the liver is coming in again as adversely affected though not by sclerosis. The selective action on nervous tissue, and its narcotic effect are due to actual solution of cell contents; but it is now openly stated that in the case of eliminating cells the protoplasm is left uninjured—a fact not at all believed in the case of nerve cells. There is evidently a lot more to be learned about alcohol, and in view of the remarkable changes of opinion from year to year, it is well to go slow lest we go too far. Now that we know it is not the cause of certain things, we are in a position to discover the real causes.

The dangers of Chittenden's low nitrogen diet have been clearly shown by Captain D. McCoy, I. M. S., Professor of Physiology, Med. College of Bengal, Calcutta. (*Philippines Journal of Science,* July, 1910). Extensive investigations into the various Indian dietaries showed that where the assimilable nitrogen was at or below the Chittenden level the tribesmen were poor in physique and endurance and lacking in resistance to disease. All other factors which could injure them were the same as in the better fed, who showed improvement in every respect in direct proportion to their nitrogen. More important still, the meat eaters were the best human specimens among both natives and Europeans, a fact which should forever dispose of the silly idea that tropical residents should abstain from meat. McCoy also found that with lessened nitrogen there was an increase of renal disease, in spite of the fact that the two great alleged causes, scarlet fever and alcoholism, were absent. We have frequently called attention to the fact that there is no support for the dogma that alcohol increases renal diseases and now we have the proof that there is absolutely no basis for Chittenden's assumption that a liberal nitrogen diet causes some mystical kind of load on the kidneys. McCoy also shows that those tribes of Bengalis which subsist on Chittenden's standard are too frail and feeble to be soldiers, but the army is recruited entirely from those who eat what Chittenden considers a dangerous amount. We commend McCoy's article to the attention of the *British Medical Journal,* which shows symptoms of Chittendenism much out of place in a nation which controls the world probably because they are "beef-eaters."

The indifference of the masses to sanitary and hygienic reform constitutes the most discouraging feature of work in this direction. For years, the crusade against promiscuous spitting has been going on, but one has only to observe the sidewalks or floors of our public buildings, or watch the average citizen to see how little has really been accomplished. The conditions that still exist in the face of the educational campaign that has been promoted so persistently, are a sad reflection on the decency of mankind. It is hard to understand how any individual of even moderate intelligence can be so oblivious to the first instincts of cleanliness as to befoul the walks and floors where other people must pass—ladies, little children and babies. Go into any public conveyance, the same thing obtains. Placard a car from one end to the other with anti-spitting warnings and yet there are always plenty of beasts who will wilfully and gleefully violate them. The same

thing is encountered in connection with the anti-smoking restrictions. Fortunately, smoking is not fraught with the dangers or disgusting details that attend promiscuous expectoration. But to a large class, tobacco smoke is fearfully offensive, particularly in closed areas like the subway, waiting rooms and cars generally. In spite of this and prominent signs prohibiting smoking in such places there are always some who seem to glory in disregarding the rules. Example after example may be brought forward illustrating this tendency to violate health and sanitary ordinances.

Not so very long ago one of the foremost sanitary propagandists of the country, the health official, if we remember rightly, of his town, was convicted of violating the health laws of his community. That he was able to escape the penalty of his act by presenting a pardon issued by the governor of his state *before conviction*, instead of condoning his misdemeanor, serves rather to emphasize his wilful violation of the sanitary code.

What is the reason for such indifference or disregard of health ordinances? Men who would no more think of violating the simplest laws of property than they would of committing wholesale murder, who follow their business pursuits with the strictest regard for the amenities, who adhere to the social code with pride and satisfaction, will yet violate the sanitary laws and regulations of their locality and be guilty of acts endangering the health and lives of their fellow men that seem absolutely incomprehensible. These men are kind, good hearted and many of them would go to any lengths to relieve poverty and distress. Many of them are gentlemen and would resent the slightest inference to the contrary. But they go on polluting the rivers and sources of drinking water, maintaining cisterns and cesspools that breed disease, building tenements that are death traps, and blindly committing acts in direct violation of the sanitary laws they have helped to frame and pass.

Why is this so? Is it lawlessness, carelessness or hypocrisy? It is hard to say, for it is not easy to determine why men who are good citizens and law abiding in every other particular, are so lawless and irresponsible in this single direction.

Doubt, uncertainty and disbelief, will probably be found common causes for the frequency with which our health and sanitary laws are broken. The actual consequences of disregarding them are so remote and indefinite, with very rare exceptions, that the average man thinks the dangers are greatly magnified. In consequence he looks upon health laws more in the nature of warnings for general guidance than rules for personal observation. "For the multitude they are all right of course, for it is the aggregate of these evils that gives rise to harm, but *my* single violation can work no injury nor annoy anyone, for it is too small and insignificant a matter in its individual aspects and consequences." Thus he shirks responsibility and quiets his conscience. The average individual's relation, therefore, to sanitary regulations cannot be better described than as one of impersonal responsibility. It is funny that the average person never considers himself as one of the masses. Whenever he thinks of himself in relation to the public, he usually feels he is apart or removed from the many, a distinct entity dissociated from the people considered as a whole.

It is to this psychological phenomenon that the violation of the sanitary laws can be largely attributed. Doubtless other causes like ignorance, pure viciousness and innate filthiness are operative in different classes and different individuals. But among the more intelligent and cleanly, the main cause for ignoring or breaking the sanitary ordinances will be found a lack of personal responsibility, a tendency to discount one's own possibilities for doing harm.

It is apparent that there is only one solution for the problem and that is to spread broadcast the gospel of personal responsibility. Not only in the schools but in every center of activity the individual must be taught that these sanitary laws and regulations are effective only to the extent that they have a personal application. Theodore Roosevelt has taught that civic righteousness is a personal virtue, and useful only so far as practiced by the individual citizen. The sanitary reformers and physicians of the land must teach a similar doctrine in public health matters and show the intelligent people that sanitary laws like all others are essentially individual in their application. To state it plainly, they are not only for "him" and "them"—they are useful and effective only so far as they are observed by "me" and "us."

The international importance of hook worm disease is so great that it would be well for sanitary conferences to take up the matter of prevention on a wide scale. It seems that the parasite is an endemic scourge in the whole tropical and subtropical belt, and is seriously interfering with industrial efficiency and international trade. Poverty is now recognized as the result of inefficiency, either inherited or acquired, and those who are chronically ill are the feeblest and therefore the poorest of the poor the world over. Social workers have long recognized that the first step in reforming the submerged paupers, is to cure them. The medical profession, therefore, forms the basis of all modern schemes to lessen poverty and it is justifying the system by the magnificent results in Porto Rico and our South—and even in our slums. The new point now being forced on our traders and manufacturers is the fact that it is not possible to get as much raw materials from the tropics as civilization demands, and that the deficiency is due to the inefficiency of the native workmen, and largely a matter of hookworm. Northern races are thus reflexly injured by the filthy habits which make the transfer of the infection so easy in the tropics. It is merely one more illustration of the necessity of controlling the tropics from the north, to force sanitation upon them as we did in Panama. The mutual benefit of both controllers and controlled demands the elimination of hookworm.

Ovariotomy and tuberculosis may not have any relationship as cause and effect, yet it is a remarkable thing that quite a large number of the female applicants to the Phipp's Dispensary in Philadelphia, report that their ovaries had been removed. Of course it might have been tuberculosis which caused the ovarian disease primarily but in view of the tremendous effect of removal of these organs due to the deprivation of their internal secretion, it would be well worth while to look into the matter a bit. The reaction against indiscriminate mutilation does not seem to have had the desired effect,

if these cases are recent, and our peritoneal carpenters should put in a defense at once. No one thinks of removing the glands unless for their demonstrably incurable disease, and the old plan of enucleating them for supposed nervous conditions or to prevent pregnancy has happily been anathamattized; but are we to believe that the operation is still done unnecessarily? We think not. There is some ground for the belief that all such patients are defective and necessarily prone to infection of any kind, but does the operation make them more susceptible to tuberculosis?

American physicians will doubtless profit more substantially than those of any other nationality, by the labors of the International Committee for Postgraduate Medical Instruction; for they form a large percentage of those who are to be found in attendance on postgraduate courses at the important medical centers of the old world. This committee has established a central bureau at the Kaiserin Friedrich-Haus, in Berlin, where, in the common interest of the medical profession and for its benefit, a permanent and regularly revised record is to be kept of up-to-date information concerning the postgraduate medical courses to be given at the various medical centres in every civilized country, the conditions of eligibility for attendance, the fees, and all other matters of import to intending students, to be furnished gratis on application. A preliminary circular has been issued in German, English and French, containing notices of medical postgraduate courses and lectures to be given during the first half of the present year in England, Hungary and Germany. These are the only countries as yet mentioned, and even these are very incomplete. The section on England, for instance, makes no mention of any of the provincial schools or of those of Scotland or Ireland. But every effort will be made to have the bureau's records made as complete as possible.

The time has surely come, not to divert the stream of American graduates from European centers of postgradute instruction, for it is an eminently desirable thing that as many physicians as possible from every country should gain a personal knowledge of foreign methods, but to complement that course by the attraction of foreign physicians to the excellent postgraduate instruction offered in the United States. Precisely the same reasons that take American physicians to study abroad exist for foreign physicians to round out their home education by a period of study in the new world. We have in America many teachers of the first mark, and in practical surgery we have masters second to none. It would be just as valuable to the mass of foreign physicians to broaden their horizon, both socially and professionally, by spending a vacation in postgraduate study here, as it is for American physicians to do the same in Europe. There is much that cannot be learned from books, and just as much here as elsewhere. But the European profession for the most part has not hitherto been awakened to this point of view. Let the postgraduate medical schools of the United States, then, make it their business to present that fact before their foreign colleagues, by seizing the opportunity to have the advantages that America offers fully registered with the International Committee.

MEN AND AFFAIRS.

Shaw and the Medical Profession.—To colleagues in search of amusing reading, we cannot recommend too highly *The Doctor's Dilemma,* one of the recent plays of George Bernard Shaw. There are six physicians in this drama, sharply differentiated types but all interesting and as life-like as the exigencies of dramatic composition permit. In the preface, which is much longer than the play itself, Shaw indulges in a typical diatribe against physicians, vaccination, vivisection, surgery and the antitoxines. He is too much of an artist, however, to make the characters of his drama such unadulterated villains as he seems to wish us to think he believes them to be in real life. The conversation of the six physicians when they are alone, and in the presence of the patient, whom they believe to be unconscious, although exaggerated for theatrical purposes, is sufficiently true to life to be immensely entertaining. A man might well count himself fortunate who had six such physicians as friends and counsellors. The copyright edition of this play is disfigured with inexcusable errors in the proof, an unfortunate drawback to many recent publications.

Quacks and Hookworm Disease.—A letter from James N. Wilkerton, general counsel for the State Medical Association of Texas, appears in the March *Critic and Guide,* telling how the quacks of the panhandle pretend to cure hookworm by administering to the patient the pulp of a lemon, and ultimately securing it from the faeces, exhibit it as a group of uncinaria. This is merely a revival of the famous Southern and Western cure for tapeworm, which netted many thousands of dollars for its inventor some thirty years ago. A chronic tuberculous subject was usually fixed upon as the victim, one with plenty of money who travelled from one resort to another in search of health. He would be accosted by a burly "capper," who after gaining his confidence would state that he himself had once thought he had tuberculosis, but that he had finally met an old professor who had properly diagnosed his case as one of tapeworm, and had removed the parasite, with the magnificent results to be seen. During one of these encouraging conversations, the aged professor is "accidentally" glimpsed taking a walk through the mountains and wrapped in profound thought. He is hailed by the capper and introduced to the victim. He refuses his aid, however; he has retired from practice and is devoting his remaining years to the production of a book. Finally, upon the offer of a thousand, perhaps two thousand dollars from the now thoroughly interested and eager victim, he consents to take just one more case.

The last scene of the farce is played in the humble woodland cabin of the professor. The victim is seated in a *chaise percée* and a powerful and speedy cathartic is administered; when this begins to act, a burly negro rubs the back and squeezes the ribs of the patient, and, the latter's attention being thoroughly occupied, a rubber simulacrum of a tapeworm, a really very artistic piece of work, is slipped into the vessel beneath the sufferer. At the conclusion of the *séance* this is triumphantly exhibited in confirmation of the diagnosis and as a guarantee of a cure. The patient is often

desirous of taking the "worm" with him, but the professor always insists on keeping it to add to his collection, which is to go to some far distant medical school at his death. We may add that at one time this strange and ingenious swindle was so successful that a certain factory in Jersey City found it worth while to make a specialty of the rubber worms, which were cleverly jointed and colored and furnished in different lengths, usually between fifteen and thirty feet. As an important part of the exhibit the head was always very carefully and strongly made.

Pituitary Fallacies.—Some rather astonishing deductions have been made in our daily journals from the recent remarks of Professor Arthur Keith, of London, on the supposed functions of the pituitary gland; we have been asked to believe that henceforward perhaps we may, by taking thought add a cubit to our stature; that the nose and other organs may be altered in shape and size. Unless our memory of anatomy betrays us woefully, the pituitary gland is about the most difficult of surgical access of all bodily structures, while no such definite result could be hoped for by organic therapeutics as the modification of the bodily contour. Very likely, Professor Keith was only lightening up his lecture by a little humor of a popular sort, an extremely dangerous diversion on the part of a medical lecturer, as a famous international physician will readily testify if he remembers the reception accorded to his playful comments on sexagenarians and chloroform.

Future Americans.—According to Professor Blackmar, of the department of economics and sociology in the University of Kansas, the American girl of the future is to have brown eyes and brown hair, while the American man will be tall and slender, firm of jaw, and of a markedly serious disposition. In other words, if we allow the presence of a few blonds, Americans of the future will bear a marked resemblance to the present white race, not only of America, but of civilized Europe. That is pretty safe prophesying. We risk further prognostications to the effect that Americans of the future will be bigger of body, broader of mind, and less easily led away by popular hysterias than those of the present day; these improvements we anticipate on account of the self-sacrificing and intelligent work done by the medical profession and by a few choice spirits from other walks of life, who have learned that in all matters concerning the welfare of mankind the physician may be safely trusted as a leader.

The Forces of Health.—Another century will certainly see the end of tuberculosis as a national plague, and recent developments of public intelligence and conscience lead us to believe that syphilis and gonorrhea will also be stamped out. More has been done for the insane in the last half century than during the previous thousand years, especially for the insane poor. We look with justifiable suspicion upon alleged panaceas, but we think that health comes nearest to being a cure-all for the woes of humanity, and the man of the future is certainly going to be healthier. Health is now considered by the man of middle-age as a great boon; in another century the sexagenarian who lacks it will surely consider himself to have somehow been defrauded of his rights. During the past decade the death rate of New York City has dropped from 20.4 to 15.9; this

has been attributed to the model tenement house laws. Part of the improvement, however, is certainly due to free dispensaries, to the health inspectors, to the compulsory examination of public school children, and to other measures that fall mainly on the shoulders of the physician, but are accepted, not only without remonstrance, but with joy at the awakening of the general intelligence.

The effect of physical training in colleges is at last receiving some of the attention it deserves, and by physical training we do not mean the excessive exertions which are universally condemned, but those exercises which are deliberately designed to develop defective parts and to increase health. If there is any one thing upon which the medical profession is unanimous it is the necessity for regulated exercises for youths and young adults, and yet the recent report from Yale University shows that from outward physical manifestations, the undergraduate shows no appreciable improvement between his freshman and senior years, though there was said to be a slight increase of lung development, whatever that means. These results are amazing, particularly in view of the fact that practically all the students take some part in athletics as well as gymnasium work. We must revise our theories to include these facts. We need not go to the extreme of advising idleness because exercises have so little effect, for it may well happen that they have really prevented the physical decline formerly so common among students. That is, we think it once was common—but was it? Above all else we must revise our theories as to the effects of exercise on growth.

Recreation and exercise seem to be confounded. Games calling for physical exertion have grown out of the young animal's need to train his rapidly growing tissues, and not to make them grow; though everyone knows that by increasing the strains we can cause hypertrophy of any tissue designed for mechanical purposes—muscle, bone or artery. To keep them normal after growth is obtained requires exceedingly little exercise. Boys must also have fun, and so must men. The change of mental occupation of the daily recreation is itself pleasurable, and we find it a necessity of existence. When we combine the change with very light exercise as in walking or golf we have the ideal for adults and particularly for those who have passed the athletic age.

The effects of over-exertion are receiving more attention in America, though Europe has always been a leader. Years ago when the bicycle craze suddenly developed, we were compelled to forbid such exercise for men over 40 or 45 because so many were dying from heart strain. Since then attention has been mostly directed to the immediate and remote effects upon the arteries and heart, and the secondary effects upon the kidneys. We have definitely shown that certain fatal conditions invariably follow prolonged hard muscular labor. At present, there is more said upon the damage to the nervous system from prolonged strains. It is found that nervous breakdown is the cause of over half of the invalidism of workmen and one-third that of working women. It is generally conceded that this result is due to nerve strains of the unnatural conditions of modern industrialism which require an unwholesome

effort of the attention. Repeated references have been made to the neurasthenia of locomotive engineers and school teachers, but the new investigations are showing that the phenomena are found in well nigh every employment, even in the modern strenuous farming life which is so vastly different from what it was a century or two ago. We should have predicted all this, for we have long known the laws of fatigue. Accidents and clerical errors are due to mental fatigue, as a rule, and gradually increase in number up to noon, but drop after the noon rest when they mount up higher than in the morning and railroad disasters are too often due to the failure of a tired brain. We should have known that work under such conditions would ultimately cause irreparable damage to the worker. Indeed, for years, physicians have been calling attention to the nervous breakdown, alcoholism and tuberculosis of professional athletes.

A crusade against the strenuous life is now well under way, as a result of these newly discovered facts. Press reports would seem to indicate that so many active strenuous athletic naval officers are becoming disabled in their prime, that such habits of life are being officially discouraged—particularly for the younger men who are naturally prone to go to extremes. Strenuous sports of colleges are receiving condemnation more and more, and even the compulsory calisthenics are being attacked, in favor of the natural outdoor sports which do not require a nerve-exhausting training. Another reason is now found for the prohibition of child labor which strains the attention, and laws are being passed forbidding women to labor more than ten hours. The movement to shorten the hours of labor of men is also progressing rapidly, though corporations are doing it for economy wherever they find fatigue accidents too expensive. The policy of modern life is a moderation which neither strains nor exhausts, and prohibition of work while fatigued. This movement should have been started years ago, for statistics always show that the average life is shortened with strains—porters and dock laborers having the worst records and clergymen the best. So let us end the strenuous life and be human again.

Acute dilatation of the heart has become entirely too frequent as a cause of death. A recent case was that of a vaudeville performer who collapsed immediately after doing a fifteen minute song and dance. Most of the cases undoubtedly have damaged hearts which, though leaky or otherwise inefficient, were really good enough for more moderate work for many years. It does seem that we might emphasize this side of the matter more than we have been in the habit of doing, and perhaps then we would not hear of so many men dropping dead upon some extra exertion—say running for a street car. Without unduly alarming a patient we can carefully explain to him just how much pressure his heart will stand. Some may even be assured that the conditions will not necessarily shorten life, but that they merely reduce the "factor of safety"—less margin for extra strains.

The heart strains of athletics are of more importance, for here too we are constantly reading of permanent damages inflicted, though sudden death is not so frequent. Nevertheless strong healthy men have died in that way ever since the first Marathon runner. It is quite evident that we can develop our muscles so greatly that they are able to put an unbearable load on the heart which does not seem to strengthen

in proportion to the rest of the muscular system. Ordinarily, and perhaps normally, the muscles are too weak to do this, and under extra exertion they fail long before the heart pressure reaches the danger point. In this view of the case, the huge muscular development so prized by our physical culturists is a distinct danger, for it places at the command of a man the power to destroy himself in his pride of strength. "Strong" men are constantly tempted this way, and we now and then hear of their deaths during exertion, though more often do we hear of their later heart troubles. It would be the part of wisdom then, to check the tendency of school athletics to run to these extremes of exertion, and to warn boys not to develop their muscles unduly or their hearts either. The normal and necessary sports of youth do not call for an excessive musculature, and permit boys of different sizes to compete in the same game. We, therefore, must continue to object to all games, such as football, which require dangerous heart strains, and an unduly developed musculature. Perhaps in time our college faculties will wake up and forbid undue strains.

A Foul Calumny.—A New England psychologist is reported as stating that ten per cent. of the physicians in the United States are addicted to the use of narcotics. Now there are some 150,000 graduates of medical schools in this country, but it is not fair to speak of them all as physicians, a title which should be reserved for practitioners of acknowledged standing. Medical graduates are to be found in nearly every other calling, journalism, theatrical enterprises, various lines of business—too often the patent medicine—as well as fostering one or another disgraceful quackery. For the purpose of making up derogatory statistics the whole body is drawn upon with very misleading results. It would be safe to exclude all surgeons, even those of only average ability, from the foregoing indictment, for obvious reasons, also the majority of successful and respected family practitioners. It seems impossible that a man whose whole life is passed under such jealous scrutiny as that of the doctor could be a narcotic habitué without detection, yet detection would certainly end his career. To say that ten per cent. of the total number of physicians, as that term is commonly understood, are addicted to drugs is simply absurd. We are not assuming any special virtue on the doctor's part, but are crediting him with the brains and common sense of average educated humanity.

The Trickery of Clairvoyants.—Some more of the tricks of modern clairvoyants, to which we have given some attention in these columns, are exposed in a story in the *Popular Magazine* for April 1st, by Charles E. Van Loan, "The Great Mooltan Mahatma." In the same issue is a story by William Johnston, "The Yellow Letter," in which the author develops some theories regarding the origin and treatment of crime that physicians will find familiar. He also speaks of the alleged love of certain colors by criminals, a theory which has always seemed to us to be rather fanciful, although it has had such advocates as De Quincey.

H. Addington Bruce continues in the April *Ainslee's* his interesting and scientific *"Adventurings in the Psychical,"* with an essay on *The Singular Case of BCA.* These true stories of the vagaries to which the human mind is susceptible are as important as they are enthralling. William Armstrong writes instructively on music and there are ten short stories and one long tale in this superior magazine.

ORIGINAL ARTICLES.

A MORNING AT BIER'S CLINIC IN BERLIN.[1]

BY

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The story is told of the young American physician who came out of the West and was in Berlin adding to his storehouse of knowledge. He had heard of the famous surgeon of Germany, and he hurried one morning to the Royal Surgical Clinic on Ziegel strasse, elbowed his way right and left and exclaimed, "I want to see Hyperaemia."

Friederich strasse is the Broadway of Berlin. A very long, busy street, beautiful shops on either side, and the roadway filled with curious vehicles, trolley cars, soldiers on foot, and many pedestrians.

A little street which branches from this and known as Ziegel strasse is always sought for by American physicians, as on this street is the Royal Surgical Clinic, and at its head, the master surgeon of Germany.

One bright June morning I left my pension on Charité strasse, the shortest street in Berlin, so called not because of its relation to the amount of charity in Berlin, but on account of its proximity to the Royal Charity Hospital. Wending my way through Karl strasse where Cohnheim's Clinic in diseases of the stomach is situated, and where I did most of my work, I came to Friederich strasse, passed over to Ziegel strasse and halted in front of an archway, the entrance to the grounds of the Royal Surgical Hospital. They seem to be very fond of archways and courtyards in Berlin, as most of the entrances to the clinics and hospitals are arranged in this manner.

Approaching the Portier in uniform whom you will also find at the entrance to the grounds of every hospital, I asked to be directed to the surgical clinic, as there were several groups of buildings in this pretty courtyard, bedecked with blooming flowers, and attractive plants. One must not look upon this man who stands guard there, with the title of Portier in the ordinary sense of porter as we see him in America; far from it. He is a personage; and we raise our hat to him when asking a question, and with the politeness of a gentleman, he answers.

As I enter the doorway on our right, a man takes my hat and cane, if I have one, gives me a check, and directs me upward. Let us pause a moment and glance at this curious collection of canes and hats. We see mostly straw hats, somewhat different from the American type, narrower brims and higher crowns, queer class caps of various colors, and lo and behold, some familiar peach basket hats—so, with a Sherlock Holmes sagacity, having been associated with him for years, we say, aha, women present! And the canes! It seems that every student in Berlin has a cane.

As this was one of the regular university courses we shall see the German student as he is. And he is rather an interesting chap, vigorous in appearance, not having been brought up on tea, well dressed and with short cropped hair, copied probably

[1]Read before the New York County Medical Society, Jan. 23rd, 1911.

from the soldiers, as most of them wear their hair as if cut by a lawn mower.

You get accustomed to seeing young men with their cheeks bandaged or their heads tied up; they have been carved to the king's taste in a friendly combat called a duel. This is the only sign of hysteria I saw in Germany.

The students in Berlin are the most polite persons I have ever seen. It was very amusing to me to see every morning and at other times, as I was going to and from the Charité Krankenhaus, the meeting of the German students. They would approach, take off their hats, and shake hands as if one has found his long-lost



GEH. PROF. BIER OF BERLIN.

brother, chat awhile, shake hands again, raise their hats and say, *Auf Wiedersehen.* It was a revelation to me. It was the fluid extract of politeness. The clock is striking the hour of eight, so we must hasten up this narrow flight of steps, open the swinging door, and here we are in the Home of Hyperaemia. Soon we shall see in his own workshop, the great surgeon, who is the personal physician to Emperor William.



Royal Surgical Clinic, Berlin—Prof. Bier's Clinic.

At first we are surprised at the appearance of the amphitheatre. It is rather small and steep, nothing up to date about it like the amphitheatre in the second Medical Clinic at the Charity Hospital, which is a model for all the world to copy. But we must remember that it has been in service many, many years. It is much like any other ordinary amphitheatre, plain folding seats not finished in white, but solid and substantial looking. Nearly every seat is taken, occupied by medical students of the University, more than one hundred in all, twenty of whom are women. We are surprised at so many young ladies, and they look very young indeed to be studying medicine. Looking around for a point of vantage, we notice, down in the front row, a group that look too advanced in years and too interested in surroundings to be medical students, and as there is a vacant seat, we go down to the front and find there a little sign which says, "Reserved for Practising Physicians." Here are ten physicians from different parts of the world anxious to see the exponent of this new method of treating inflammation, and to learn his skill in handling surgical diseases.

The nurses are moving around getting everything in readiness, and in come twelve assistants wearing long white dusters.

Geh. Prof. Bier appears and begins to wash up. He looks very much like an American; a fine looking man, well-built, well-nourished, and with an eagle eye he surveys the field. This morning we will first have the policlinic, that is, different surgical cases that have come to the Clinic for treatment. Naturally everything was spoken in German, but the diseases shown had the same signs in every language. The secretary read off the names of six students, and they came down into the pit and tried their skill in mastering diagnosis and suggesting treatment.

Prof. Bier is the judge and critic, and he smiles while the student is trying to figure out what happened to the lip of the old man who sits there for diagnosis. It was a very interesting clinic; and it seemed the air must be carcinomatous, for we never saw such a collection of cancers at the clinic before. These are the cases that had come from far and wide that morning in June, for diagnosis and treatment:



Entrance to the Royal Charity Hospital, Berlin.

1. Carcinoma of lip.
2. Carcinoma of jaw.
3. Fracture of nose.
4. Fracture of rib.
5. Fracture of femur.
6. Cavernous angioma of head, baby.
7. Cellulitis of hand.

They were questioned by Prof. Bier and he helped them in giving a differential diagnosis in each case. The medical students in Berlin certainly get a very practical training.

The policlinic being finished, the second part of the morning's work is begun:



Pension Hoeven, Charité Strasse—The American Physician's favorite pension, Berlin.

8. Tumor of intestines; Cancer of descending Colon.
9. Carcinoma of rectum.
10. Carcinoma of breast.

Each of these cases was carefully examined by two students, diagnosis made, treatment advised and prognosis given.

Operations. We learn that Prof. Bier will perform two operations this morning, one for appendicitis, an interval operation, and one for carcinoma of the breast. Two of the students are called upon to give the anesthetic—which is ether by the open method. Prof. Bier and two assistants be-

gin scrubbing up, and we notice that the water they use comes from a spray above the sink, reminding one of a watering pot, the hot and cold are regulated by the foot. The same arrangements we have seen recently in the new Rockefeller Hospital, which has just been opened in this city. The hands are dried and dusted with sterilized powder, and all wear rubber gloves. The patient in the meantime has been scrubbed up in another room, anesthetized and brought in on the same table.

Prof. Bier's assistants at the operation included two physicians and two nurses, each with one duty to perform. One nurse did nothing except hand the wipes and sponges, the other nurse handed instruments and threaded needles always in a holder, so no time was wasted as I have often seen when I was house physician, by the surgeon trying to get the needle to stay in the holder. One physician assisted in clamping and wiping; the other in holding instruments, and each one trained so that everything went like clock work. None wore masks. As the patient had been scrubbed up outside, the first case which was an interval operation for appendicitis, was ready for operation. Sterilized dressings were placed as usual and then the first assistant got in his fine work with iodine; he smeared the whole field with tincture of iodine and the operation is begun. Prof. Bier announces that he is going to do a typical McBurney operation. Ah, that sounds like home. Of course he was demonstrating the operation to the students and so he naturally took more time I suppose, than he otherwise would have done. He made the incision much longer than is done here; he sewed the different layers of the muscle to the skin temporarily, got the appendix, removed it and sewed up in the usual way. We must admit that it is not necessary to go to Berlin to have one's appendix removed. As soon as the wound was closed, the patient was rolled back into another room, and there the proper dressings applied by the first assistant physician. There is one thing I noticed that we can learn here in this country, and that is economy in the use of sponges and dressings; and that is what costs in a hospital. For instance, the nurse gave a wipe which was always in a sponge holder, and when it was returned, she turned the wipe around so that it was used twice.

The next patient is wheeled in on another table; a young lady student is giving the anesthetic. Every one is washed up; with new gowns and gloves, they begin. One amusing thing is the kind of overshoes Prof. Bier wears to keep out of the wet. The assistants wear them also. They are great big goloshen, wooden soles and uppers of leather, and they go on like slippers. The only objection that I saw was, and it might be an advantage, when Prof. Bier wishes to emphasize a point, he would move his feet up and down, and it sounded like an introduction to a clog dance, these wooden overshoes on the marble floor.

The second operation is ready and the artist paints a scene from the Black Forest with iodine, and Prof. Bier does his radical operation for carcinoma of the breast. The only things that remain after the operation, so far as I could see, were the ribs and the blood vessels in the axilla. It was begun at the breast and not in the axilla as is often the case in America. It was beautifully done, and showed the master workman.

The patient is rolled out as in the other case and dressed in another room. So we have watched the great surgeon of Germany

in his workshop; we have admired his great ability and feel better for having seen this wonderful man who has the whole world praising him for his original work in treating inflammation, and for his skill in surgery. But not a word did we hear about hyperaemia.

78 Irving Place.

QUININE: ITS HISTORY AND THE PREPARATION OF ITS ALKALOIDS.

BY

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The stories of the search and cultivation of plants connected with healing art are all of absorbing interest. They tell of privations, of suffering and of self-denial which merit our admiration as well as our gratitude.

Quinine is no exception. Its romance overflows with adventure and its name is linked in history with the foremost scientists of the world; with De Lugo, Linnaeus, Jussieu, Pellitier and Pasteur.

The virtues of quinine are well known and the world has good reason to be grateful for the blessings it has brought with it. As far back as two hundred years ago, the renowned Italian professor of medicine, De Baldo, declared: "this bark (cinchona) has proved more precious to mankind than all the gold and silver the Spaniards brought with them from South America."

The English troops could not maintain their proud position in the sultry, disease-laden climate of India without quinine, so devastating would the effect of the malarial scourge be upon them. Livingstone, Stanley and other explorers into the heart of Central Africa have celebrated the manifold virtues of the drug and many an instance is recorded in which these daring men who, when exhausted with weakness, have cast away everything; food, instruments and even arms to keep their supply of this life-saving bark with them.

Today, we all know how invaluable a specific quinine is and how innumerable are its uses in diseased conditions and still, like many other valuable assets which we possess, history is not clear upon the exact date of its discovery.

However, nearly all writers on the subject agree that its properties were known to the ancient Indian tribes of Peru who jealously guarded its secret and that among them it held high rank as a febrifuge. Some tell us that the natives by watching the wild puma and South American lion chew the bark when sick, became acquainted with its properties; others ascribe the discovery of its properties to a cure accidentally brought upon a native who, when overcome with malaria, lay on the bank of a stream and, having no other water to drink, imbibed of the waters saturated with quinine which resulted in a cure.

The first authentic account we have of cinchona is in the year 1620. A Jesuit missionary father in the province of Chucuifaca, Peru, who was attacked with tertian malaria, after much suffering, was given some bark to chew by an Indian medicine man of a tribe for whom he had previously performed some service. The Indian name of the bark was China-china and the father on regaining his health collected a quantity which he sent to his superior at Loxa, a city on the southern frontier of Equador. The unstinted praise which he bestowed upon it was merited, he thought, by its services to himself. The

Indians of Peru were like those of most of the southern countries at that time—of a warlike nature, resentful of the entrance of the white missionaries among them and, in consequence of this, the years of 1623-1626 found the cinchona country and the neighboring states in the state of war. While this war was in progress the investigations into the properties of quinine were interrupted. After much bloodshed, however, the war was concluded and a new Viceroy in the person of Count Chinchon was appointed by the Spanish crown to rule over the troublesome states. The count with his young wife, Ana De Osorio, a former lady of the Elizabethan Court, arrived in Loxa in 1629 and from this date we once more find notices of quinine and its use.

The Countess of Chinchon, whose previous life at court wholly unfitted her for the wild, uncertain, malaria-laden climate of Peru, soon fell a victim to this disease. The superior of the Jesuit mission at Loxa sent to her physician, one Constantio De Vega, a sample of the bark sent to him by the missionary. The doctor at first refused to administer it to his royal patient but the disease took on such an aggravated form that he had recourse to it as a last resort with the result of a cure.

Her escape from the clutches of the disease was not forgotten by the countess who purchased large supplies of the bark which she distributed to the poor of Loxa and the vicinity that they too could experience its wonderful properties.

The delicate health of the wife obliged the count to relinquish his post as Viceroy and, with the countess and the skeptical De Vega, journeyed to Italy where the physician, now thoroughly convinced of the curing properties of the bark, sold enormous quantities of it at the rate of one hundred reels a pound, about one hundred dollars.

The countess did not confine her charity to Loxa but wherever she stopped on her journey she continued to distribute the bark and, at length returning to Spain, she cured the poor and afflicted of the surrounding country by her beneficence. In honor of her charity, Linnaeus, the Father of Botany, conferred upon the ground bark the name of Chinchona which, although misspelled, it bears today.

While the count and his party were on their way to Italy, the Procurator of the Peruvian Province of the Jesuit order, Rev. Bartolene Tafur, was called to Rome by the general of the Jesuit order. On his way thither, he passed through France and history records a wonderful cure of Louis XIV, while still Dauphin, by means of the bark obtained from Father Tafur. This religious proceeded to Rome and while there made the acquaintance of the renowned Cardinal De Lugo and so convinced his Eminence of the properties of the bark that, until his death the Cardinal was the most zealous defender and charitable dispenser of the drug in Europe. Here, again, as a reward for his charity, the bark was named after him, as it was in the case of the countess, and the bark now was known as the Pulvis Patrum (the Father's Powder).

The introduction of cinchona, like that of all other new remedies, was the signal for a wide-spread attack on the part of the medical men of that day. Many brochures were written for and against its use. The most notable anti-cinchona pamphlet was one written by a Brussels doctor, Jean Jacque Chiffet, who described the bark as "a product of Jesuit supersti-

tion and foisted upon the people only to gain favor for the order, it being unfit for use." He even went as far as to say that the taking would cause serious illness, if not death.

This was answered by a French Jesuit, Honore Fabri, in 1665. His pamphlet upheld the curative properties of the bark and also contained the first full directions for its use.

The bark was disseminated throughout Europe probably by the Jesuit order. In the years 1646-1652 their eighth, ninth and tenth general congregations were called in Rome. To these came three members from each province in the world, who, on returning to their native lands very likely brought back with them the bark.

Soon after the homecoming of the English delegates, we have positive data. An article appeared in the foremost weekly of that day the Mercurius Politicus, 1658, Vol. 58; p. 108, as follows: "the excellent powder, known by the name of Jesuits' powder, can be obtained from several London chemists." The two most prominent physicians of that day, Brady and Willes, are also on record as having used the bark successfully in their practice.

Little or nothing was scientifically known of the tree that produced such wonderful bark until 1739, a whole century after its introduction by the Jesuit missionary at Loxa.

In the fall of 1739, La Condamin and Jessieu, two French botanists, who were on an exploring expedition in Central America came across the plant and collected some of the bark with a view of sending it to Paris for cultivation. Unfortunately, however, the whole collection was lost in a storm at sea and full another century passed before anything effective or practical was done to introduce or naturalize the tree in Europe.

In 1858, the English government was wise enough to see the advantage an unlimited supply of cinchona would be to her in her fever-stricken dependencies and decided to send an expedition to Peru to import species of the plant to Ceylon and India, in which places the climate and surroundings were very like those of the original habitat of the plant.

A noted naturalist, Mr. Clements Markham, was selected by a board of commissioners to superintend the expedition and, after much discouraging opposition, both from the custom service of his own government in not transmitting his species and from the native bark collectors, (cascarillos), who were furious at the thought of losing their monopoly, he managed to send a few seeds to India. From these mainly, if not entirely, the present magnificent collection of over four million plants on the government plantations in India and Ceylon developed.

On these plantations, the alkaloids are separated and the refined product as we know it is made.

Preparation of the alkaloids.

Cinchona:— China-china, Cortex Chinae, Peruvian Bark, Jesuits Bark, Loxa Bark, Jesuits Tree, Jesuits Powder, Pulvis Patrum.

The cinchona tree is a species of the Genus Chinchona of which there are about thirty-six varieties, only a dozen of which yield the medical product. The tree itself is indigenous to the Western Andes and Peru and when full grown is a beautiful sight to behold; tall and majestic with its various shaped branches topped with a cluster of delicate colored flowers whose

fragrance, at certain seasons of the year, fills the air and spreads itself abroad on every side.

The root, flower and capsule have but little tonic properties. The upper bark is the part of commercial value. The medicinal properties depend upon the presence in it of one or more of the four alkaloids: quinine, quinidine, cinchonin, cinchonidin, all of which are of nearly equal value in the treatment of malaria.

The alkaloids in the bark do not exist in a free state but are in combination with tannin, and all are not found in the same amount in the same varieties of trees although, as a rule, all are found in the one bark.

Some varieties, such as the Chinchona Sucurubra, are rich in alkaloids while the Chinchona Officinalis yields the greater percentage of quinine.

The mode of cultivation of the tree has a great deal to do with the output of the drug. For instance, if the bark is protected from the direct rays of the sun by a covering of metal, the tree will yield a greater percentage of quinine. Again, if moss is packed around it and kept well wet with water, the supply of the alkaloids is increased.

The Chinchona Officinalis contains as its organic constituents: quina, chinchona, arcina (inert), quinidia, cinchonidia, quinic acid, tannic acid, quinonic acid, chincona red, yellow coloring matter, a green fatty matter, starch, gum and ligni. The alkaloids are separated from the bark in this manner: the cascarillos collect the bark from the trees in long ribbons and place it in a shed where it is dried artificially. It is then placed in a copper pan in which one and one-half per cent sulphuric acid and water which has been used to wash the previous bark is added. The whole is boiled for one hour, after which the bark and liquid are separated by strong pressure in a screw press, the liquid falling in a wooden vat beneath.

This procedure is repeated four times. At each step, more sulphuric acid is added and more water until the bark is a mass of pulp and exhausted of its alkaloids. The liquid is then evaporated to about one-sixth of its bulk and allowed to cool. It is then decomposed by neutralization with lime, which precipitates the alkaloids decomposing the quinotannates and sulphates with the formation of insoluble lime salts.

The powdered lime precipitated is then packed into a copper vessel resembling an inverted cone with a receiving trough beneath. Alcohol is poured on until passing through the precipitate it fills the lower vessel about one-third full. A fire is kept under the bottom vessel and the vapor from the alcoholic solution is caught in copper containers and evaporated. The alkaloids, after drying, are ready for use.

Thus, in the all too brief scope of this article, I have endeavored to give some little idea of the discovery of quinine, its uses and the processes to which it is subjected in preparation for the market. It would be a pleasure indeed to dwell at greater length upon the additional phases of this drug which has been so invaluable to physician and patient alike the world over but I fear that I should trespass overmuch upon the patience of my readers were I to pursue the subject further. Medical men who are interested may continue the investigation in the larger works which treat the subject comprehensively.

THE ORAL LABORATORY.

BY

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The laboratory student is familiar with the fact that to encourage the rapid propagation of cultures three features are essential, namely, soil, proper temperature and moisture. Within the laboratory incubator maintained at a temperature of 98° F., are placed the soil tubes of starch, impregnated with the desired germ and kept suitably moist. The result—a rapid multiplication of bacteria.

These common proceedings in bacteriology lead us to a comparison of conditions frequently met in the oral cavity. In a large proportion of human mouths do we find tooth cavities, diseased root canals, loose and spongy gums, ill fitting crowns and bridges which serve all too well as a receptacle for the culture media, i. e., the starches of our food products. A multitude of pathogenic bacteria may here find their ideal place of lodgment and under the influence of the normal body temperature and plenty of moisture they thrive with astounding rapidity. In twenty-four hours a single germ may bring forth a family of many millions and general infection is the natural sequence. We are further mindful of the many opportunities for bacterial lodgment and propagation that are common in the post-nares and tonsillar lacunae.

Any lack of resistance or normal tone evidencing a faulty metabolism, the presence of hyperacid secretions, as well as existing disease, particularly of the fever type, increases the danger of self infection.

How frequently do we feel justified in believing that many of the infectious diseases trace their inception to the oral incubator. The pneumococcus, according to Musser and Norris, has been isolated from the mouths and throats of fifty out of eighty individuals and to-day it is responsible for nearly ten per cent. of all the deaths in the United States. Pneumonia generally shows a history of a preceding tonsillitis, laryngitis or bronchitis. Guarding carefully these avenues may prevent many a more serious outcome.

We are perfectly familiar with the fact that a goodly majority of the diseases which affect mankind are contracted through the oro-nasal passages, and having this well in mind will it not become us to give profound attention to those measures which shall check the processes of incubation?

As George E. Hunt recently stated: "Yesterday practitioners of the healing art said, 'Let us pray,' to-day they are saying, 'Let us cure,' to-morrow they will be saying, 'Let us prevent.'" The word "prophylaxis" is a Greek derivative meaning "before" and "to guard," defending from disease; prevention.

Impress your patient by definite instructions with the use of some reliable antiseptic solution. Formulas of alkaline nature are best suited to counteract the acid secretions which figure in all inflammatory conditions affecting the mucous membrane of the mouth. When diphtheria, tonsillitis or pneumonia are prevalent encourage the frequent daily use of such hygienic measures as will minimize the danger of infection. Let your first instructions to the nurse or attendant on your fever cases cover the care of the mouth. We speak with no uncertain words when we point to the common neglect in the care of the patient's mouth. The presence of so-called

sordes on and around the teeth is an evidence of carelessness on the part of the physician.

Someone has said that the ability of a nurse can be judged best by the condition of her patient's mouth. Cleansing the oral cavity and frequent wiping of the teeth, gums and tongue with a piece of cotton held with an applicator saturated with an alkaline antiseptic solution goes a long way toward preventing hyperacidity and processes of autoinfection as well as contributing markedly to the comfort of the patient.

It should be a matter of routine to examine carefully the mouth of every patient who comes under our care, co-operating with our dental colleague in maintaining a healthful condition of the teeth, membranes and secretions of the oral cavity. During health as well as disease should we make clear to each individual the full importance of keeping the mouth clean.

AN APPEAL TO ALL MEN OF HONOR OF THE MEDICAL PROFESSION OF AMERICA.[1]

BY

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When we study the historical developments of human actions we often meet with tendencies which appear strongly contradictory and which we could hardly believe possible if we did not observe them step by step. Steam and electricity have shortened distances and brought the different civilized people of the earth into close contact one with another, so that all now form more or less one community with intimate relations, a condition of which there was no conception a little over half a century ago. With these new relations there was felt the necessity of one uniform organ of communication, that is, one common language; and, while attempts are made to create such a universal language, there are on the other hand men, men of science, who are working to widen the cleft which separates the nations more and more in regard to international language of science, men who are opposed to the establishment of a uniform scientific nomenclature in place of the imperfect, incorrect one that at the present time exists. It may be stated here at once that scientific nomenclature is independent of the language of commerce and everyday communication. Whatever the result of the Esperanto movement, for instance, may be, it does not aim to affect the scientific names, especially those of the medical science. Its principle is to use the generally accepted scientific term, merely esperantising it in orthography and giving it the proper grammatical termination—thus should the barbarous term appendicitis unfortunately prevail, it would become in Esperanto apendicito; while the proper term perityphlitis would become pertiflito. To Esperantists therefore, as to others it is just as important that correctly formed Greek words should be used as the base of Esperanto formation. It is very remarkable that men of science exclude names which have been well selected, correctly and elegantly formed by classical writers, and have been in general use, and substitute for them new, incorrect, unscientific ones. For instance, the correct term chylorrhoea was changed into the horrid hybrid gastrosuccorrhoea. In this way the language of science is corrupted and its study made difficult. One would imagine that science ranks higher than such absurd-

[1]Paper read before the Medical Association of the Greater City of New York on March 'h, 1911.

ities; at any rate all older generations beginning with the Romans, who were the first disciples of the Greeks, through the period of the Renaissance until the first part of the nineteenth century have thought so and have gratefully retained the scientific names which had been formed by the Greek and Graeco-Romans; they even selected new names for new conceptions from the Greek language. By this means, not only was the reverence of the world for the eternal teachers and benefactors of all civilized men manifested, but the study of scientific literature was facilitated and science bore the stamp of intercommunity and internationality.

When we examine the medical lexicons of the first half of the nineteenth century we observe that there were lexicographers who went to work very critically as far as new formations from the Greek were concerned, and we see that there existed many Greek scholars, at least of that part of the Greek language which has been transmitted through the classical writers, among the physicians at that time. In the year 1821 there was published a medical lexicon by L. A. Kraus, in which the most frequently used names of Greek origin were enumerated, with the special object of exposing incorrectness wherever it was noticed by him. I will not now dwell on the ideas of Virchow in regard to incorrect terms, nor on the work of Hyrtl, in which he exposes grammatical inaccuracies, calling our onomatology incorrect, ridiculous, absurd, and hence unscientific, nor, above all, on the work of the German anatomical society, to establish a correct onomatology. I have pointed out the vain exertions of all these men, all great scholars, and I have furnished conclusive evidence that they have failed, simply because they ignored the existence of living Greek. All this I have exhaustively treated of in several publications, but I shall speak of it now from a new point of view. The importance and urgent necessity of scientific nomenclature should by right be clear to every thinking man, yet when we study the history of misocainia in medicine we find that there never existed a fiercer opposition to a truth than that concerning the necessity for a scientific nomenclature and the only possible way of securing this desideratum. Nobody with common sense can say that this opposition is in conformity with the dignity of the medical profession or that it can serve the progress of science. It is necessary that this opposition should be overcome, and that we should return to the ancient source of our science in regard to scientific language, because science itself must be, as Lavoisier has so well demonstrated, imperfect without a scientific onomatology. This return, however, cannot as we have seen, be accomplished in the way it has so often been attempted. We are, as before stated, well aware of the many errors which have been committed by well meaning men, who, however, were incompetent. We know the great confusion that they have caused. The formation of pure scientific names has to be done with great care, we have to consider that the Greek language, like every other language, has its own rules and laws, that the greatest thinkers long times ago have imbedded their thoughts in this language, and that Greek, for this reason, cannot, like an unconverted barbarous land, be taken possession of by the first invader; that Greek has a great and glorious past; and that in this language the highest worldly and ecclesiastical truths have been laid down. The immediate consequence of all these circumstances is, that

we are forced to obey laws that have been established thousands of years past; otherwise it will surely happen that even we, who recognize in principle the necessity of a uniform scientific language, are in danger of frustrating our aim by our ignorance or carelessness. Against this danger I spoke many years ago. I have demonstrated publicly and repeatedly that we are doing wrong, and, what is worse, that we are sinning against the noblest of all languages almost voluntarily, for it is, or rather it should be, known by everyone that Greek is not (eternal thanks to God!) a dead language, but is spoken by several millions of living men. Moreover, Greek, although only a fragment of it, is cultivated by scholars outside of Greece, and from this language are coined day by day many scientific and technical terms.

I wish now, as I have done already on several occasions, to call attention to the greatest historical lexicon of the Greek language from Homer down to the present time, which is in preparation, a work which will excel in monumental greatness everything that ever has been undertaken in the scientific world, a lexicon in which the historical development of every word will be traced. For the execution of this gigantic enterprise the Greek government, by royal decree, two years ago appointed a committee, and I am informed that the staff of editors is now well at work, preparing for publication that part which comprises the language spoken in Greece today; the language of older periods to follow afterwards. The originator of the idea of an historical Greek lexicon—the new Thesaurus of the Greek language, as it is called—is Professor Hatzidakis, whose biography I have published in the American Medical Compend for August, 1910. I may be permitted to recapitulate here what I said in my address before the New York Academy of Medicine on March 31st, 1910, concerning this lexicon:

"This new Thesaurus of the Greek language will be an everlasting monument to the immortality and unanimity of the Greek nation; it will demonstrate the history of the entire Thesaurus of the Greek language; it will comprise all its forms and phases, reflect the inner and outer history of the Greek nation: and it will show that the Greek nation has remained an ens, both ethnographically and linguistically, from the oldest time up to the present day.

"It is true the gigantic undertaking is yet in its initial stage; all kinds of difficulties have to be overcome, even the preparations require a great deal of time and a large sum of money, and it is well known that the Greek government, on the subsidies of which the editors have to rely, is not rich. But considering that the modern Greeks are not the only heirs of the culture which their forefathers have left to the world, that all civilized peoples of Europe and America are heirs, that all owe a sacred duty and have a direct interest in the Thesaurus, it is to be hoped that all peoples will come to its aid, that the monument of the glorious language of three thousand years may be better understood; for such better understanding will mean a great gain foremost to the world of science.

For us physicians, too, a work of this kind means a considerable gain, because by its aid the correct scientific denomination of worlds of Greek origin can be definitely established."

Considering that in the Greek language are laid down the best monuments of human wisdom, as well as the oldest documents of the divine teachings of the Christian relig-

ion, it is, I believe, the sacred duty of all civilized peoples to participate in this work, and the civilized world will thereby erect to itself a glorious monument of its own piety.

And while this work of Hatzidakis is in preparation, Dr. Phoustanos, the editor of a Greek medical journal, is writing a lexicon of all the terms used by the ancient Greek physicians, as well as the numerous names in our present onomatology. Of the latter those coined by foreigners who are ignorant of the Greek language present a pitiful and repulsive spectacle of barbarous distortions of Greek. This immense agglomeration of errors and barbarisms is corrected in this lexicon according to the rules of the Greek language.

I closed my address on the Necessity for a Scientific Medical Nomenclature before the New York Academy of Medicine with the following appeal:

"Permit me Mr. President, after having demonstrated the necessity of a scientific onomatology, to speak as a member of the Medical Society of Athens, as a member of the committee appointed by the Athenian Medical Society, to aid in the regulation of medical onomatology. I beg to suggest that the New York Academy appoint a committee which will communicate and cooperate with our Greek brethren who are engaged in this onomatological work for the benefit of medical science."

And neither the president nor anyone present at that meeting uttered a single word in reply. This was the sad end of my lecture, which I had so carefully prepared, in order to convince and inflame the hearts of my professional brethren for a noble cause. I appeal to you who I have named. Will not you, men of honor, remonstrate in some way with those old gentlemen in medical political power, who, throughout the land, control medical societies and medical journals, so that the claims of scientific truth shall not be ignored? It is true I am in possession of many letters from distinguished colleagues in which my modest labors are praised, and in which is said that they have been of benefit to medical science, but this is not enough; public acknowledgment through the medical press is needed and the power of certain American medical journals to suppress the truth must be broken.

POST-TYPHOID BONE ABSCESS. REPORT OF A CASE.

BY

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While osteomyelitis during the course of typhoid fever is not an extremely rare complication, it can hardly be called common. In more than twenty years of surgery, the writer has encountered not more than four or five cases. Every case of true bone abscess caused by the typhoid bacillus and appearing years after the primary disease should, however, as a matter of duty, be reported. The following history with its classical picture can hardly fail to interest both surgeons and general practitioners.

Morris L., 27 years old, had typhoid fever in 1904 and during the course of the disease there was osteomyelitis of the left clavicle, the right radius, the lower portion of the left tibia, and one of the right metacarpal bones. Healing took place under surgical treatment. At the same time there was a painful and reddened swelling over the upper portion of the right tibia which disappeared without perforation of the skin and without operation. In September, 1910, more than six years after recovery

from the typhoid, the middle part of the right tibia became swollen and very tender so that the patient was unable to work. There were no chills and fever must have been moderate as the patient was not confined to bed.

About the middle of October he entered the Fourth Surgical Service at Bellevue Hospital and came under my care. The scars where the old abscesses had been were plainly visible and in the upper third of the right tibia there was a tender, slightly reddened enlargement. The diagnosis of bone abscess was made, and a radiograph by Dr. Hirsch showed quite clearly rarification of the bone at the site of the swelling; it even showed a rarified tract about ¼ inch in diameter running from the main cavity through the bone and apparently ending beneath the periosteum. The highest temperature was only 100 and the whole aspect of the case was that of a cold abscess of bone. In view of the past history it appeared quite probable that the infecting agent was the bacillus typhosus.

On October 20th, 1910, I operated, making an incision through skin and periosteum, 4 or 5 inches long, over the subcutaneous portion of the tibia. With the chisel an area of bone about 3 inches long and ¾ inches wide, was marked out, and then cutting through the hard bony tissue, the entire piece was raised like a lid disclosing a lake of bluish pus. Cultures were taken and the abscess cavity thoroughly emptied and then disinfected by filling it with a 2% formalin solution which was sponged out in about a minute. The over-hanging edges of the cavity were then chiseled away, the bleeding stopped with hot water and the periosteum joined by 3 or 4 widely interrupted sutures of catgut. The skin was closed in a similar manner and the wound dressed after the method of Schede for the so-called organization of moist blood clot. In four weeks the first dressing was removed, disclosing primary union with the exception of one minute sinus which admitted a fine probe to the posterior wall of the cavity. Under ordinary dressing no breaking down occurred and the patient was discharged on December 2nd. At this writing he is well with no point of depression at the site of the operation. A pure culture was obtained from the pus by the Pathological Department under Dr. Norris.

It is probable that some slight blunt injury to the tibia created a point of least resistance, so that the latent typhoid bacilli, acting in much the same mannner as tubercle bacilli, were brought into renewed activity. Still it is necessary to note that this increased virulence caused no systemic infection but merely a local one. The patient is probably still immune to the blood infection of typhoid and yet his tissues were not able to resist the pathologic action of the germs at the site of an injury.

Unfortunately the stools and urine were not examined, but from the findings in other similar cases we know that the bacilli are not necessarily present in the secretions or excretions of those suffering from old typhoid bone lesions. This man was a typhoid carrier but probably not a disseminator of the disease—a distinction which should be more generally recognized.

66 East 79th Street.

SURGICAL HINTS.

In cases of ischiorectal abscess extending down to the rectal wall, it is generally advisable to abstain from opening into the bowel and establishing a fistula, with its disagreeable features. If properly drained, many of these abscesses will heal without perforating into the rectum.—*Int. Jour. of Surg.*

In cases of severe injury demanding amputation it is often advisable to defer operation for twelve to twenty-four hours, until the patient is in a better condition for the anesthesia. To operate immediately on patients addicted to alcohol and with full stomachs, greatly increases the risks of pneumonia, nephritis, or embolism after etherization.—*Int. Jour. of Surg.*

COLDS AND CATARRHS.[1]

BY

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These conditions known since the beginning of man, like poverty are ever with us and it is within the memory of some of you that the diagnosis of cold and catarrh was considered proper and all sufficient. Now however, these terms as diagnoses are relegated to the storeroom of medical antiquities along with their contemporaries, colic, dyspepsia, biliousness, etc.

The terms as such have a firm foothold in the minds of the laity and are not easily displaced. They serve moreover, to allay the anxiety of a worried mother or wife and do no harm provided always the physician has a clear conception of the clinical picture at hand.

Broadly speaking by cold is meant an acute and by catarrh a chronic inflammation of the upper respiratory tract and for convenience, we will adhere to these distinctions in this paper.

Cold:—Cold will be divided into the four following classifications:

1. Simple taking cold.
2. General conditions predisposing to cold.
3. Local conditions predisposing to cold.
4. General conditions or diseases giving symptoms identical with cold.

(1) *Taking cold:*—By this is meant the simple acute rhinitis, pharyngitis or laryngitis occurring in a previously healthy (both local and systemic) individual due to any of a dozen causes such as direct infection from another, sudden changes in temperature, wearing indiscreet clothing, wet feet, etc. This is a simple catarrhal inflammation of the respiratory mucous membrane and so common that I will not dwell further upon it except to add that an acute rhinitis which is not practically cured in ten or twelve days with any sort of treatment is no longer such but is complicated by some obstruction or sinus infection of which more will be said later on.

(2) *General conditions predisposing to colds.*—Under this and the next division falls that large class of cases who tell us they are subject to cold and in spite of spongings, exercises, proper and careful clothing more or less suffer from cold. These too, prove very trying to the physician, often taxing his skill, patience and acumen to the utmost to discover the underlying cause. Manner of living and eating are foremost to be considered. Sluggish liver and intestines cause more or less circulatory disturbance in the respiratory mucous membrane resulting in a reaction to slight stimuli. Excessive use of alcohol and tobacco cause direct and indirect irritation of the pharynx and larynx exposing the offender to frequent attacks of laryngitis and pharyngitis. Improper clothing, more often too much than too little, renders one sensitive to these conditions by causing a local stimulation at the expense of the rest of the body. Rheumatism, gout and other constitutional diseases play their role partly by lowering the general body resistance and partly by pouring out through and upon the respiratory mucous membrane more or less irritating secretions. Certain occupations causing mechanical, thermal or chemical irritations of the respiratory tract, result in frequent attacks of cold. The automobile, that transgressor

[1]Read before the Medical Society of the Borough of the Bronx, Jan. 12, 1910.

in several other directions, plays another part here by exposing its occupants to strong dust-laden winds. There are many other factors of like kind but enough has been said to illustrate the point.

(3) *Local conditions predisposing to colds.*—This is the most important division of all and probably includes 75% of the cases. Hypertrophied turbinates, tonsils and adenoids, deviated septa and septal spurs, polypi and diseases of the accessory sinuses present characteristics which differ widely but not in result. Hypertrophied turbinates, polypi, deviated septa and spurs all act in the same way by first interfering more or less with the nasal breathing according to situation. This sets up a local irritation and a swelling of the erectile tissue on the turbinates follows. Now with each downward piston-like movement of the diaphragm, there is a partial vacuum or negative pressure established in the nose, resulting in an increased nasal congestion and secretion. Ballenger claims that septal spurs and deviations, by their constant pressure on the turbinates, cause traumatic erosions thereof affording points of entrance for infection. When the obstruction is so placed as to block the natural openings of the sphenoidal and frontal sinuses, antrum of Highmore or ethmoid cells it may act as a mechanical hindrance to the natural outflow from these sinuses. Chronic disease of the accessory sinuses, excreting purulent material and keeping the nose and throat bathed in bacteria-laden fluid, not alone irritates the mucous membrane but renders it less resistant to external influences. More of this will be mentioned under catarrh.

Diseased or hypertrophied adenoids and tonsils predispose to acute inflammation of the nose and throat first, by lowering the general body resistance when large enough to compel mouth-breathing, and secondly, by harboring all sorts of noxious germs in their multitudinous crypts.

(4) *General conditions or diseases giving symptoms identical with colds.*—This class includes the neuroses of which hay fever is the best example and the acute respiratory complications of measles, scarlet, typhoid, etc. They are not primary acute affections and so do not come within the scope of this paper. You will observe nothing has been said of direct infections such as influenza and diphtheria but these are really acute constitutional diseases of which the local nose and throat lesions are merely a part.

Catarrhs:—There is even more confusion here than in the case of colds and the number of diseases and conditions this term is supposed to cover is almost without limit. The following classification will be followed:

(1) Chronic inflammations.

(2) Hypertrophies and obstructions including tonsils and adenoids.

(3) Atrophies.

(4) Chronic disease of the accessory sinuses.

(5) New growths.

The function of the nose is five fold. 1, for olfactory purposes, 2, for purposes of respiration, 3, for warming the inspired air, 4, for filtering it, and 5, to afford drainage to the accessory sinuses. Any condition interfering with one or more of the last four of these is certain to give trouble in one or several directions.

(1) Chronic simple rhinitis or "rhinitis with turgesence" as Ballinger calls it, gives little annoyance aside from occasional difficulty in nasal breathing on one side alternating with the other especially at night

combined with increased secretion. If the inflammation be of high grade, it results in a hypertrophy. Chronic pharyngitis and laryngitis without other nose and throat lesions are seen almost exclusively in public speakers, singers, players of wind instruments, etc., where mouth breathing is compulsory.

(2) Large turbinates, deviated septa and septal spurs by their very size interfere with free nasal breathing. As before stated, a negative pressure is induced, secretions accumulate causing more irritation thus setting up a *circulus vitiosus*. The secretions gather in the nasopharynx especially at night, and in the morning the patient has to spend considerable time in snuffling, hawking and spitting, striving to clear his nose and epipharynx and to remove the stuffed up feeling therein. For obvious reasons, these people feel better in cold weather and worse in warm. This is a very common kind of catarrh and is the only one which is relieved by the various patent "catarrh oils, salves, douches and nebulizers" advertised to the laity. Most of these contain cocaine or suprarenal extract with or without menthol. The first two shrink the tissues and restore nasal breathing for a time, while the menthol produces a cooling sensation. When the middle turbinate alone is enlarged, there is interference with the drainage from the sinuses but more of this will be mentioned later on.

Tonsils and adenoids.—There is not much to be said that is not well known about these old offenders except to call your attention to one or two points. Tonsils and adenoids do not have to be large to cause trouble. Small submerged tonsils can give sore throats as often as large obstructive ones. A ragged tonsil with small white plugs projecting from the crypts will bear watching and if their owner is subject to recurrent attacks of tonsilitis, extirpation is strongly indicated. So too, adenoids, while as a rule small in adults, still may be the starting point of a chronic naso-pharyngitis and laryngitis by constantly secreting pus which trickles down and irritates the mucous membranes.

(3) *Atrophies.*—Chronic atrophic rhinitis destroys two of the nasal functions; filtering and warming the inspired air. The lower mucous membrane is provided with columnar ciliated epithelium to clear the inhaled air from particles of dust, as any one can prove to his own satisfaction by cleaning his nose after a railroad trip. In this form of rhinitis, the columnar epithelium is replaced by the stratified pavement form which of course, has no filtering value. Moreover, the wide nares allows the cold air to rush into the throat and lungs unimpeded. The secretions dry quickly, are tenacious and owing to the large nasal lumen are not dislodged on blowing the nose. Hence they accumulate, irritate and destroy the tissues further and finally this mixture of dirt, secretion and dead epithelium is cast off as a big stinking mass so characteristic of this disease. A similar process takes place in the pharynx and larynx rendering their breath unbearable to every one but themselves. This form is known to the laity as "dry catarrh."

(4) *Chronic disease of the accessory sinuses.*—This is the most important form of catarrh and often the most difficult to diagnosticate. I say important, because a chronic empyema of one or more of these cavities can give serious eye or brain trouble, and is far commoner than is generally believed. Patients go on for years with a more or less free purulent discharge

believing they have an ordinary simple catarrh. Some of it trickles back into the pharynx and they are more annoyed by the throat than by the nose symptoms. So long as drainage is free, they do not complain aside from their recurrent attacks of cold as before mentioned. Now this pus laden discharge is irritating to the nasal mucous membrane, and nature here as elsewhere retaliates with a hypertrophy. This usually involves the ethmoid or middle turbinate or both, resulting in a true hypertrophy or in polypoid degeneration thereof. Sooner or later these obstructions by their size or position impinge on the natural sinus outlets, interfering with the free purulent discharge. This results in an accumulation of pus and increased intra-sinus pressure. Pain and headaches, general or local, often unilateral, naturally follow, with or without symptoms of pressure upon neighboring structures. An interesting case seen in Vienna last summer is worth reporting briefly. A girl of 15 went to the eye clinic complaining of poor vision in one eye. Careful examination revealed a paleness of that half of the optic nerve without anything to account for it. She was sent to the nose clinic for further examination and an extensive ethmoidal empyema of that side was made out. She was operated upon at once with an immediate improvement in her vision.

(5) *New growths.*—Benign and malignant growths will only be mentioned in passing. At first they present symptoms of simple obstruction but later assume distinct characteristics which carry them beyond the lines of this paper.

There are other conditions such as tuberculosis and syphilis which combine catarrhal symptoms with their other phenomena but are so distinctive that they need not be considered here.

Treatment:— The treatment of colds and catarrhs could well occupy the attention of your body for a whole evening without exhausting the subject, so I will not attempt to do more than touch a few of the high spots.

If seen early, (within the first 24 hours) a simple acute rhinitis is well treated with a brisk purge and profuse sweat. This is best done at home with a hot bath followed by rolling the patient in a blanket without a nightgown and administering 5 to 10 grains of Dover's powder and a large glass of hot lemonade. He should be in the blankets two hours before changing. This to my minds is superior to a Turkish bath where the sweating is interrupted by the cold water and alcohol rubs. After the first 24 or 36 hours this treatment is useless since it is of profit only during the stage of congestion which is relieved by free diaphoresis. Later, when there is that stuffy feeling nothing gives more or quicker relief than local applications of 5% cocaine without suprarenal extract. This shrinks the swollen tissues and allows more breathing space. I say without suprarenal extract because, while it too shrinks the structures it also contracts the blood vessels, interfering with the process of resolution besides giving an uncomfortable sensation of the head and teeth. Where no complication is present, the case will get well on nothing further than a warm, mild alkaline or saline nasal douche by means of a Birmingham cup followed by a plug of cotton soaked in 1% menthol oil and allowed to remain in the nostrils for 5 minutes. The so-called rhinitis tablet of various makes relieves the early stuffy feel-

ing but in the later stages is without value. Cases complicated by a sinus infection require somewhat different handling. These must be seen daily and a 10 to 20 percent cocaine solution placed about the anterior end of the middle turbinate and between this and the outer wall. Its effect is to shrink the tissues away from the natural sinus outlets and allow free drainage. Following this, use a 2 to 5 per cent protargol spray which should also be given to the patient for use at home three to five times a day.

In the mechanically obstructive cases, there is nothing more to be done except to remove the obstruction after the acute inflammation shall have subsided. Cocaine in any form should not be prescribed for home use but if thought necessary not stronger than 4 per cent and no repetition allowed, to avoid the possibility of habit. As before mentioned, the "cold and catarrh" remedies owe whatever virtue they possess to their cocaine content and their use is strongly to be deprecated. I recall being sent for at three o'clock one morning to attend one of my patients presenting the typical symptoms of acute cocaine poisoning following the local application of a "cold and catarrh" salve.

In acute pharyngitis and tonsilitis, besides free sweating and purgation, our old friend Jacobi's mixture in conjunction with salol or aspirin and phenacetin has given me the most satisfaction. Gargles are of doubtful value especially in pharyngitis and no use in laryngitis. All highly spiced and irritating food and drinks must be avoided.

In acute laryngitis, rest is the most essential and equally difficult-to-obtain therapeutic factor at hand. Inhalations of steam impregnated with benzoin, carbolic, etc., are very soothing; while cold compresses externally give much relief. Internally, pilocarpin gr. 1/100 to 1/50 loosens up the secretions and codein with antipyrin alleviates the irritating cough. Later when it has become subacute, local applications of silver nitrate 2% hasten resolution.

For the constitutional diseases predisposing to cold it is self-evident that the underlying factors such as rheumatism anu gout require appropriate treatment. Persons compelled to work in an irritating atmosphere should wear small plugs of cotton in the nasal vestibule or one of the little hay fever sieves on the market to filter out the dust and dirt.

The treatment of catarrhs can be summed up in one sentence: "Remove the cause." Large turbinates, tonsils, adenoids, polypi and spurs should be removed; deviated septa straightened and sinusitis treated or operated upon. All the douches, salves and applications invented cannot help these conditions for obvious reasons. Sinus disease is the most difficult to treat, and as it is frequently the starting point of hypertrophies and polypi, must be cured before we can assure our patient there will be no recurrence of his symptoms. Atrophies stand alone so far as treatment is concerned and the main therapeutic measure is cleanliness. Aside from those cases which are secondary to sinus infection (and by the way some authors believe this is the rule) we have nothing to expect from operative interference with the possible exception of submucous paraffin injections.

There is one popular fancy I wish to attack and that is the cold bath or sponge hardening process to prevent cold. Of all the overrated and abused medical fads in

vogue, this certainly stands at the head. What can be more unreasonable than trying to protect a child from recurrent attacks of croup, tonsilitis or rhinitis by means of a daily cold bath when he has a throat full of tonsils and adenoids and sleeps with an open mouth! Or, who can see the rationality of attempting to avoid a catarrhal discharge by like treatment in an adult with a chronic frontal or ethmoidal empyema. Whatever virtue these therapeutic measures possess (and I am willing to admit they are of value in carefully selected cases) it is only in those falling in class two, constitutional diseases predisposing to colds or during convalescence from some prolonged and depressing illness. Yet it happens that physicians prescribe these baths and rubbings indiscriminately often without looking into the nose or throat. This brings up another point; examine the nose of every patient complaining of a cold or catarrh and apply a little 5% cocaine if the tissues are so swollen that you cannot see clearly. Often you will be astonished at what you find and save yourself the chagrin of having something discovered by your successor in the case which you never even suspected. True, all cannot be nasal specialists nor is it necessary that an exact or even approximate diagnosis be made by the general practitioner. But, every physician can or should be able to tell a practically normal nose and throat when he sees one and if instead, he discovers a bowing of the septum, a large turbinate pressing thereon, pus trickling down from above or rough scraggly tonsils he knows that the conditions are not as they should be. Such a case coming for the relief of recurrent colds or chronic catarrh is entitled to a more thorough examination by yourself or another if you do not feel satisfied as to the exact state of affairs. No man would think of treating a pneumonia for example without a thorough auscultation and percussion of the chest, yet it is quite common for cold or catarrh to be treated without even a peep into the nose; often taking the patient's statement "Oh I've got only a cold in the head, Doctor!" for granted.

The following case is illustrative of this: Mrs. T. aet. 45 yrs., complained of catarrh, headaches and at times neuralgia of the left side of the head and face for 9 years. She had used all sorts of patent and home remedies and had been to three physicians, none of whom had looked into her nose. On examination I found a chronic empyema of the ethmoid and frontal sinus with the antrum of Highmore full of foul smelling pus.

In closing, the writer feels that it is almost a sacrilege for him to have attempted to treat so vast a subject in so short a paper, keenly realizing that any subdivision might well and profitably take up a whole evening's discussion. Considering however, the season of the year and the wide prevalence of these diseases which the general practitioner usually sees first, he believes that if he has succeeded in calling attention not to new, but to often overlooked factors in etiology and consequent treatment, his course is justified.

450 Tremont Ave., East.

MEDICAL HINTS.

Dr. Fantus says that rheumatism can positively be checked by heavy doses of salicylates if given at the outset of the disease, while if smaller doses are given an immunity to the drug is established and the treatment thereby made much more difficult.

—*Med. Summary.*

DOSAGE TO EFFECT.

BY

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Not long ago an editor forwarded to me for comment, a report in which the writer asserted that he had administered to patients gum opium in doses reaching about four ounces in twenty-four hours, and morphine up to forty-eight grains in the same period. This was in the treatment of puerperal septicemia, and the patients had not been habitually addicted to the use of opiates.

The quantities were so enormous that one feels compelled to assume toward the report the attitude which the world displayed toward Dr. Cook's claims, and ask for something in the way of proof beyond the simple assertion of the reporter. For the tribe of Ananias is prolific, and must assuredly have somewhat of fitness about it, for it certainly survives. But if the doctor's claims are substantiated it is a lesson in dosage for effect.

In puerperal peritonitis we face one of the most awful maladies to which humanity is liable. It is hardly a mere inflammation, but a conflagration. Old Charles D. Meigs was accustomed to say in his vivid way: "Of what possible use are a few grains of calomel scattered over fifty square feet of inflamed membrane! *Bleed,* BLEED, BLEED!"

The doser by rote is indeed lost here. Clark, who introduced the treatment by opium, urged that it be pushed to effect, regardless of the dose. We have here an illustration of a true "saturation" by the drug. Its effects are antagonized by the pain and the inflammation; and if success is to be had it is only by pushing the doses until these pathologic factors have been neutralized. Whatever may be the quantity required it must be given.

In this case, according to the report, opium was pushed until narcotism was established and the respiration reduced to nine per minute; thereafter enough opium was given to maintain this effect. This is exactly right as to the method, and if it required a quarter-pound of opium to induce this effect, the dose was justifiable. That this was not explicable by a presumed low quality of the opium seems to be proved by the corresponding doses of morphine required when this alkaloid was substituted for the crude gum. So long as the respiration remained above ten, the doses were safe, no matter how large in grains.

The great therapeutists have been men who dosed for effect. Trousseau gave strychnine to epileptics up to a grain daily. Gross gave tincture of iron in dram doses as a restorative, and successfully treated phagedena with the potassio tartrate of iron in similar quantities, when timid therapeutists with book-doses failed.

Dosage to effect does not mean maximal doses, however, for many times the value of the drug is best manifested by fractional doses. The object of scientific therapeutics is the restoration and maintenance of physiologic balance, rather than overwhelming an excited function by sedation.

Hence, we say, if the doctor's cases refused to yield to the opiate until his dosage reached a quarter-pound daily, he was exactly right in giving that much and deserved the success he won.

But suppose narcotism develops, the breathing slows to six per minute, and the disease does not relax?

The existence of a focus of septic infection in or outside the uterus should not be overlooked, and its evacuation and disinfection are more directly and imperatively demanded than overwhelming the febrile and inflammatory results with opiates. Modern science insists on removal of the cause, suppression of the toxin factory by the curette, or the more extensive intervention of the surgeon.

In Australia the bites of venomous snakes are treated by giving strychnine enough to counteract the paralysis of the coats of the great splanchnic vessels, and lives are saved by forgetting the average dosage and giving enough to overcome the effects of the venom. The doses of strychnine required are so large that they would surely kill the patient were they not counteracted by the venom.

The writer has succeeded in smothering threatened epileptic convulsions, by administering bromides in doses increased as the patient felt the paroxysm impending, until an ounce and more was given each day. No evidence of bromism appeared. As the convulsive tendency subsided the doses were reduced.

The same principle has been applied to the administration of bromides and of hyoscine, in treating the craving for opiates in habitues, with good immediate effect; but less chance of permanent cure than when the patient's moral forces are aroused to resist the diabolic influence.

In the treatment of the pernicious forms of malaria, common in regions where this malady shows its greatest intensity, many a life has been rescued from imminent peril, by the practician who has the nerve to exhibit quinine in dram doses. But on the other hand, the same practician who has formed the big-dose habit, in treating less intense malarial infections has been the cause of permanent deafness, from the same potent remedy, misused.

In the treatment of puerperal eclampsia there is a consensus of opinion among those who rely on veratrum viride or veratrine, that safety lies alone in pushing the remedy to full effect, regardless of the dose.

So also in the use of atropine to control hemorrhage, the rule of practice is to give at once a full dose, a milligram, hypodermatically, to secure full, even toxic effects, as speedily as possible, and lock up the blood in the forcibly dilated capillaries and away from the torn vessels.

In the treatment of ileus, strangulation, and other forms of intestinal obstruction, we seek to bring the patient rapidly under the full influence of hyoscyamine and strychnine, the one to relax the spastic circular fibers of the bowel, the other to energize the contraction of the longitudinal fibers—thus removing the obstacle and inciting expulsive peristalsis.

Sometimes we are called upon to treat an inveterate neuralgia, that has resisted the ordinary medication. If we give our remedies timidly we lose out; the patient's system becoming habituated to the drugs. But if we begin with a maximum dosage, say zinc phosphide a centigram, strychnine arsenate five milligrams, quinine arsenate two centigrams, and ext. cannabis indica three centigrams—having emptied the bowels previously and made sure that renal elimination is unobstructed—we make an impression on the rebellious nerves that could not be had from cautious dosing.

There is a time for big doses and a time for caution. Take a patient with delirium

tremens, who resists all our ill-advised attempts to put him to sleep—until in desperation we heap Ossa on Pelion of our hypnotics, and he sleeps his last sleep.

Fevers have been broken by repeated doses of acetanilid, given without previous evacuation of the toxin-factory in the bowels, and fatal collapse has followed.

Apprehension fights the ether given without a preliminary H-M-C, till the supply has been exhausted and a deluge of the last ounce poured in by the impatient anesthetist, or chloroform has been superadded, and the resistance and vitality collapse at the same moment.

Morphine is repeated desperately to relieve gallstone colic, till the stone drops into the duodenum, the antagonistic pain ceases, and fatal narcotism ensues. Truly, big doses require a cool head as well as a brave heart. Knowledge directs the blow of the mace, not blind, Berserker fury.

Without judgment the big doser is about as safe as the ape who dashed out his master's brains with the stone he used to kill a fly.

There are many occasions for the small doses, even of minute ones. Anemonin exhibits its very peculiar powers only when administered in doses so very far below the point of maximal toleration as to approximate the homeopathists' attenuations.

Iron works wonders when allowed to infiltrate the tissues by very small and frequent doses.

Berberine does best when minute doses are used to very slowly influence the relaxed tissues back to normal tonicity. The same is true of the application of aloin to restore rectal peristalsis, of cascarin to likewise energize the colon, of rhubarb to reestablish the digestive secretions, of emetine to allay irritation of the respiratory mucosa, of boldine to incite the liver to form urea, and of arbutin to soothe vesical irritation and coax the urinary mucosa back to a healthy condition.

Regulation of vascular tension and cardiac power is a matter for the nicest physiologic balancing, as is the use of caffeine for insomnia, and of the valerianates to allay nervous symptoms in typhoid fever. We could cite innumerable instances where the application of minute fragments of exactly the right remedy proves effective in removing unpleasant and even threatening symptoms—such as half-milligrams of tartar emetic for the insomnia of indigestion, like doses of corrosive sublimate for the rectal irritability of dysentery, or a trace of nitric acid for oxaluria.

The study of drug action is the work of a lifetime, spent in diligent observation and research; the results handed down to another generation, proved, corrected, simplified, tested and explained by the constantly increasing light afforded by advances in physiology and pathology. Such studies begin with the introduction of chemical unities, definite, unvarying agents, on which observations can be based that have some permanency of value.

The adoption of chemically pure active principles and laboratory products marks the beginning of scientific therapeutics. The possibilities thereby opened to the investigator offer the most brilliantly alluring vistas ever offered to man.

SURGICAL HINTS.

Pain from an ingrowing toenail can be relieved by treating with a mixture composed of one ounce of chloride of zinc and one dram each of muriatic and nitric acid; mix them thoroughly, and apply one drop daily to the affected toe.

—*Med. Summary.*

ACTION OF ANIMAL EXTRACTS UPON INTESTINAL MOVEMENTS.

BY

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and

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In 1884, one (*Medical Bulletin*) of us showed that adrenal extract enlarged the lumen of the intestine at the moment of the injection of the filtrate; when the arterial tension is mounting the intestine is relaxing. Drs. Ulman and Ott studied some of the animal extracts upon the excised intestine by the method of Magnus. Here a small piece of the intestine is attached by one end to a fixed point in warmed Ringer's solution, through which oxygen is bubbling. The other end of the intestine was attached to a heart lever which recorded the contractions. Ott (*Medical Bulletin*, 1897) first noted that a filtered watery infusion of the spleen injected into the circulation increased the frequency and force of peristalsis. Ulman and Ott noted a similar effect by the Magnus method. We also found by the method of Magnus that a drop of the filtered infusion of the pancreas relaxed the muscle and slowed the movements of the intestine. At the same time the force of the contractions was increased. We also found in the same manner that thymus occasionally increased the force of the contraction.

In this study we used a glass cannula upon one end of which a balloon of the thinnest rubber was tied. This balloon was inserted through an opening in the small intestine of an etherized rabbit, not far from the stomach. The other end of the cannula was attached to Albrecht's piston recorder. The animal extracts used were rubbed up with distilled water, filtered through absorbent cotton and injected per jugular. The number of the experiments was twenty-five:

Iodothyrine (5 grains) increased the frequency and extent of intestinal contractions. Powdered thyroid (1 to 2 grains) also increased it.

Ovary (½ to 1 grain) had no effect as a rule, occasionally (1 to 2 grains) increased the peristalsis.

Infundibulin (10 gtt to 18 gtt) increased the extent of the contractions of the intestine.

Mammary gland (½ grain) increased the height of the waves of peristalsis.

Prostate (½ grain to 1 grain) increased the height of the intestinal contractions.

Thymus (¼ to ½ grain) augmented the frequency and extent of peristalsis.

Spleen (¼ to ½ grain) increased the height and frequency of the intestinal contractions.

Parathyroid (½ to 1 grain) increased the rate of peristalsis and the height of it.

Pancreas (¼ grain) also augmented the extent of the contractions. One grain of cortex of the kidney had no effect.

Dried brain (1 to 2 grains) also increased the height of the contractions.

Parotid (½ grain) increased the extent of the intestinal contractions.

SURGICAL HINTS.

For that dry tickling cough, no peace day or night, drop doses of deodorized tincture of opium, on sugar, after each paroxysm of coughing, will relieve promptly.

—*Med. Summary.*

THE DISPENSARY EVIL AND ITS CONSEQUENCES.

BY

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In its editorial columns, the August issue of AMERICAN MEDICINE, under the heading of "Abuse of Clinical and Dispensary Treatment," has revived an old but none the less to us very painful question—a question, that for many years past, has agitated the minds of those of us who see in it one of the most potent factors that tend towards the degeneration and the demoralization of our beloved profession in this country.

Numerous articles have been written, and as many suggestions offered as how best to remedy this abuse. But, upon closer scrutiny we find that the writers of these articles have signally failed to properly diagnose the malady, giving only problematical causes for its existence. They would have us believe that the responsibility for this breach of propriety and common decency, constantly perpetrated by "the well-to-do-patients that crowd the dispensary benches," should be laid at the doors of the officers of these institutions, who, in their desire to present a large annual record wilfully aid in the violation of the laws of the State, thereby defeating the very purpose for which dispensaries have been established, namely, the treatment of the poor and deserving.

But why beat about the bush? Why not come out with the whole truth? Are not the Medical Boards of the respective institutions represented by their dispensary committees, as much a party to the transaction? The wishes and recommendations of these venerable gentlemen are as a rule respected by the lay Board, and more often they are all-powerful in matters pertaining to the moral, as well as to the financial welfare of the institution they are chosen to represent. Why then, do they display such apathy and indifference toward this very burning question of the day?

Now let us see who are the real sufferers from this flagrant mismanagement of dispensary affairs, existing, nay, thriving, with the apparent sanction and concurrence of these no doubt well-meaning medical authorities.

Are the poor and deserving patients the real victims of this most disgusting system, that fosters beggary and extends an encouraging and welcome hand to the imposter and mendicant? I say emphatically no.

It is the poor and needy doctor who, robbed of the means of making a legitimate and ethical livelihood by the very system he is helping to build and develop, must of necessity resort to very unprofessional methods in order to keep the wolf from the door.

And, it is this dispensary misrule that is alone to blame for the recent epidemic of the so-called "ten cent doctors plague" that has spread like wildfire and infested every part of our city.

A situation such as has never been witnessed before in the history of our profession has developed within the past few years.

The less fortunate, but nevertheless, honest and respectable physician, who, because of a finer sense of duty to the old traditions of his calling, refuses to fall in with the ever increasing army of quacks and humbugs, must either starve or get out of business.

It is no longer a question of "survival of the fittest," but the contrary hold true in this case.

And, who are chiefly to blame for this shameful condition? It is, I say, the leading lights of our profession who alone are the masters of its destinies.

And are they trying to correct existing evils?

Being themselves the favored children of fortune, are they mindful of the misery they indirectly and perhaps unknowingly heap upon their outraged colleagues, who, by a strange caprice of fate become the agents of their own destruction?

In all the sporadic outcries about the dispensary abuse that still echo in our ears, and penetrate the very heart, we can always discern the voice of one, who has himself been hard-hit by the system. Never of the one who is a recipient of its benefits.

But why should these men of authority and power hide in the background at the time when thousands of their colleagues, in their battle for an earthly existence, are looking up to them for salvation and relief?

Have any of the medical societies attempted to take the part of their poor and wronged members? If not, why not? Is there any relief in sight? Will this most intricate problem find its own solution? Will a great and brave leader ever come forth to champion this worthy and noble cause? Who knows?

53 East 115th Street.

MEDICAL HINTS.

All diabetics whose urine shows a marked diacetic acid reaction should be placed on sodium bicarbonate. As much as three to four ounces may be given daily.

—*Med. Summary.*

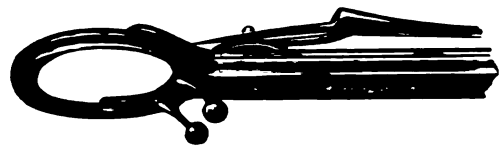
A TONSILLOTOME IMPROVEMENT.

BY

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The accompanying illustration is that of an ordinary Mathieu's tonsillotome with a very simple improvement, which, however slight it may seem to be, I have found so useful that I desire to offer it to the profession.

The improvement consists merely in two anterior pillar hooks, or retractors, 3-8 of an inch in length, either straight or very slightly curved, probe-pointed, and soldered to the anterior margin of the fenestra on the side of the instrument opposite to the impalement-fork—in other words, on the side next the wall of the throat. The hooks diverge somewhat as they leave the instrument, being 4-8 of an inch apart where soldered to the tonsillotome and 5-8 of an inch apart at their probe-pointed extremities.



The way in which these hooks, or retractors, are used is this: The anterior pillar is of course, if necessary, first thoroughly separated from the tonsil, and then, the tonsillotome having been introduced into the throat, first the lower hook, or retractor, and then the upper, is inserted into the space between the pillar and the tonsil. The instrument is slightly drawn forward, and then the instrument is pressed round the tonsil, and the ablation completed in the customary manner.

It is sometimes stated that, when the anterior pillar is thoroughly separated from the tonsil, the artery which runs along the

free border of the pillar (and which, when cut, produces such troublesome hemorrhage) can never be wounded. But all those who have operated on very many tonsils are aware that the statement is by no means correct. Especially in cases (not rare) where the pillar is very broad and also strongly concave on its posterior aspect, it will, even after its attachments to the tonsil are thoroughly broken down, follow the tonsil into the field of action of the knife. The tension of the tonsil produced by the inward movement of the impalement-fork at the same time that the fork runs backward through the tonsil, is, in such cases, almost certain to produce at least a nicking of the margin of the anterior pillar with resultant hemorrhage of distressing, or dangerous, character.

The two little hooks, or retractors, render this accident an absolute impossibility. They hold the pillar safely forward, in all cases, during the time that the ringknife slides across the fenestra, no matter how strong may be the inward pull of the impalement-fork upon the tonsil itself. The pillar falls into the angle between the hooks and the instrument, and simply cannot get away.

Spite of the recent popularity of total extirpation of the tonsils, ablation is still, in my opinion, much the more appropriate in the great majority of cases, and, by means of almost any tonsillotome provided with the little hooks, or retractors, above-described, is vastly safer than extirpation.

MEDICAL HINTS.

The fluid extract, sambucus canadensis, in ¼ to 1 teaspoonful doses, three or four times daily, is considered almost a specific for dropsy.

—*Med. Summary.*

SIR WALTER RALEIGH'S "ROYAL CORDIAL."

(With some Side-lights on the Clinical Medicine and Therapeutics of His Generation, and Incidental Glances at its Political and Social Morality).

BY

JOHN KNOTT, A. M., M. D., CH. B., & D. P. H. (Univ. Dub.); M. R. C. P. I; M. R. I. A.; &c.

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There are, I believe, few more interesting combinations of the adventurous, the contemplative, the heroic, and the intellectual, to be met with in the crazy panorama of the world's history, than that which is represented by the personality of Walter Raleigh, "the typical gallant and hero of England's heroic age." We all made his acquaintance in our schoolboy days, and the spell of his personal magnetism has, so far as I know, remained unbroken ever since. His name and fame, too, are inseparably associated with the great English-speaking Republic of the Western World. For his zones of special and ever varying activity embraced the (then very) New Hemisphere as well as the Old; our own Emerald Isle, as well as his native England—his special intimacy with the latter including the Court, and (very conspicuously, indeed) the Tower of London. Born in 1552, he entered Oriel College, Oxford, in 1566; where his characteristically active and adventurous spirit asserted itself in prompting him to leave without waiting to secure a degree, for the purpose of volunteering to join the Huguenot insurgents in France. He next proceeded to make a personal investigation of the prospects of American colonization. In 1580, we find him landing in Ireland

(Cork), in command of a hundred infantry, to aid in the chastisement of the Irish rebels. In 1581 he returned to England, and was introduced to the Court circle as the protégé of the reigning favorite of the Virgin Queen, the Earl of Leicester, whom he accompanied to the Netherlands in the following year. Soon after his return he became the prime favorite of Elizabeth, whose susceptibility of heart still retained its apparently vernal freshness, despite its physiological service of nearly half a century. The average "intelligent and educated" denizen of our twentieth century metropolitan thoroughfares probably now remembers Raleigh as the hero of Fuller's story of how he first caught the eye (and mind, if not the heart?) of his royal mistress by flinging his fine plush cloak in the mud to save her daintily slippered feet from being mired in the most unsanitary part of the pre-Macadamite laneway which her Majesty happened to have selected for her pedestrian exercise. The incident is now, it is true, regarded by most critical biographers as pretty purely apocryphal; yet I believe that many of my most cultured regards will agree with me that it is a pity to reject it—utterly. For, as Davidson has truly observed, "it well befits the romantic temper of the times, and the manner of fantastic devotion with which the Virgin Queen loved to be wooed or worshipped by the fine gentlemen of her court." Raleigh was now in the prime of manly beauty; his tall and handsome figure, dark hair, high colour, lofty forehead, resolute and manly bearing, alert expression, and spirited wit, combined to form an imposing personality; and all the advantages that had been so generously conferred upon him by Nature had been skillfully heightened by art, and displayed most impressively by a gorgeous splendor of personal decoration in dress and in jewels. Then in 1583-4-5, we find his restless spirit engaged in promoting attempts at colonization in North America. The degree of success attained was not specially encouraging; the "*Virgin* Queen," however, graciously adopted the suggestion of giving the name of *VIRGINIA* to the "New Dominion." One hundred men lived for a year on the island of Roanoke, and then returned to England in Drake's fleet, completely dispirited by their experience of the New Continent. One of these, Thomas Hariot, published an account of the temporary occupation of their melancholy settlement; and it is interesting at present date to note that he mentions the herb "called by the inhabitants *Yppowoc*," which has since come to occupy so prominent a position in the luxury, and even national and imperial finance, of the society and civilization of the old world. Raleigh himself took most kindly to the personal enjoyment of the trans-Atlantic item of vegetable luxury; and, on his return to Court, habitually smoked his Virginian "weed"—unadulterated—in pipes of silver while his admiring Queen sat by. But such restful felicity is never predestined to last long in this uneasy world. The young and handsome and high-spirited Earl of Essex appeared at Court in 1587, and Raleigh received an agrarian donation of 42,000 acres in Munster! There, in his romantically situated garden at Youghal, he planted the first tobacco and the first potatoes known to Irish soil. Associated with the same dreamy locality—which Nature would seem to have formed for the highest enjoyment, and which Fate had doomed to experience of the deepest misery—is Raleigh's friendship for Edmund Spenser, and his vigorous activity in preparing for the reception of the Spanish Armada—which, I may remark in passing, led in course of consecutive "evolution" to his enthusiastic practice of the *piracy* (for it was no other) which occupied on the

"Spanish Main," one of the most active and interesting sections of his chequered career. His subsequent adventurous record must be here passed over, as irrelevant to the associations which led to the original genesis and application of the *Royal Cordial.* But his imprisonment, sentence, and final execution loom largely in the mind of every reader of English history, and much of Raleigh's wealth of scientific and literary attainment owed its accumulation to the prolonged limitation of his personal freedom. So that it is desirable that we should know something of the same—more authentic, if possible than the vague data furnished by the regulation "school and college textbooks." The following extract will be found a broad stepping-stone:

"As for Raleigh, none ever imployed inlargement worse, that knew so well how to advantage himselfe and his country in imprisonment; for during his tedious lying in the Tower (under the jealousy rather than justice of King James, who did so farre participate of the humour of a pusillanimous prince, as to pardon any sooner than those injured by himselfe), he was delivered of that Minerva, the History of the Old World; which travil of his brain proved more successful, than that of his baby, to discover a new one, in that unhappy voyage to Guiana, in which his son, with a number of other gentlemen, were lost and undone, and he exposed to the Spanish cruelty, who, about that time, began to dazle the weaker eyes of James, with the contemplation of a match between our prince and that King's sister, to whom Sir Walter had rendered himself suspected, no lesse then he had formerly disobliged the treasurer Cecil, by obstructing, to the farthest extent of his power, a peace, through his mediation, propounded in the very shutting in of Queen Elizabeth's daies: which was not only the cause of his arraignment long before, and carried on so fiercely by Attowney Cook, and the defenders on the treasurer, at Winchester; but of the order upon this occasion sent, though long after, to Condamor, the Spanish agent, vigorously to demand the head of Rawly for an assault made by him on his masters Indies: A head of more weight to our court (especially in that dearth of wisdome then raging), then the Infanta could be, notwithstanding the most generall no lesse than the least suspected reports made her alone owner (though small in stature), of the greatest beauty, virtue, gallantry, and prudence, that were at that day extant in womankind. But as the foolish idolaters were wont to sacrifice the choycest of their children to the devil, the common enemy of humanity; so our king gave up this incomparable jewel to the will of this monster in ambition, under the pretence of a superannuated transgression; contrary to the opinion of the most honest sort of gownsmen, who maintained that his majesties pardon lay inclucively in the commission he gave him upon his setting out to sea: It being incongruous that he who remained under the notion of one dead in law, should, as a generall, dispose of the lives of others, not being himselfe master of his owne: But the Spanish faction, then absolute at court, and sole managers of the king's power, no lesse then his justice, did so farre tender his Catholic majesties satisfaction in the procuring his death, the only man of note left alive that helped to beate them in the yeare 1588, that no absurdity lying in the way of his prosecution could deterre them from making use of his former condemnation: Remembering, withall, how far his wit had puzzled them at Winchester, that though his judges were willing enough to destroy him there, yet did they rather tire him out of his life, by the bawling of the king's counsell on one side, and the benches insisting upon a confession, extorted from the Lord Cobham out of feare, (who being in the same condemnation, could but make a circumstance, no creature else averring it), then convince him: some of his jury being, after he was cast, so farre touched in conscience, as to demand of him pardon on their knees; which made it the lesse probable they should be able to impanell one so wicked as would do it then. Besides, no peace beyond the Line was a beliefe so riveted in the opinions of all as he could not have been indicted a new, without the kings producing of the originall articles, by which his accusers would have been convinced of malice, or his prince of folly. He was captaine of the guard to Queen Eliza-

beth, warden of the Cinque Ports, first discoverer of that new plantation, which, in honour of his mistris, he named *Virginia;* but, above all, of so incomparable a dexterity in his judgment, as the treasurer (who had already, by an universall compliance with the king and his countrymen, purchased the monopoly of his favour) grew jealous of his excellent parts, lest he should supplant him. And this was the first cause of his bringing to that triall from which Gondomar and our espaniolized English took this last advantage to cut off his head: which Edward Wimark, the Pauls-walker, wished upon Sir Robert Nanton's shoulders, one the secretaries of state, who conscious of the need he had of such good parts, convented him for it, but without any better successe, then making himself ridiculous; yet, had he or his master owned so much understanding, as witty Wimark meant who made the wish, we should not have found such cause to complaine now of his sonnes evill counsell; left him by descent from King James, that gave this fatall blow, not possibly then to be seconded by such another, made so much the heavier, because procured at the sute of an enemy."

"His death was by him managed with so high and religious a resolution, as if a Roman had acted a Christian, or rather a Christian a Roman: So, as amongst the number that contributed to the destruction of the Earle of Essex, none but he died pittyed. Which James finding, he according to the mode of weak and ill-consulted princes, set forth in print a declaration, which, according to the ordinary successe of such apologies, rendered the condition of that proceeding worse in the world's opinion: It begins thus:

"Though I take my selfe bound to give no other account of my actions but to God, yet, &c. . . ."

Thus we find written the graphically worded record of a first-hand observer—in a small volume, entitled *Traditional Memoyres on the Raigne of King James,* which was published in London in 1658. The extract above quoted contains, as all readers must allow, materials peculiarly suitable as texts for interesting and instructive—and very prolonged—discourses on the painfully slow evolution of moral diagnosis and therapeusis, of the proverbial gratitude of royal personages and their courtly satellites, of the prevalence of Machiavellian methods of policy in the establishment and maintenance of every specimen of princely power, of the mysteriously inexplicable ascendency of the agencies of mischief and evil in matters mundane, of the successful care with which historic truth is so very usually veiled from the eyes of posterity as well as of contemporaries, and of the unutterable meanness of motive which has so often furnished the mainspring of the original movement of many an apparent great and even heroic event.

The present writer entirely agrees with the view apparently held by the writer above quoted that the restlessly active—and phenomenally productive—qualities of Raleigh's mind (and even body) were never more forcibly demonstrated than during the long years of his imprisonment in the Tower of London. Prince Henry, the heir to the throne, was the bright favourite of the English people during the early portion of that period. He was devotedly attached to Raleigh, and is said to have remarked that no one but his father would have kept "such a bird in such a cage." The fatal illness of His Royal Highness occurred during the imprisonment of the great object of his admiration, and among the very many remedies that were tried in the despair of the attendant physicians was the *Royal Cordial* which furnished the text on which was based the production of the present paper. The fame of the remedy had been previously established, and on the most solid foundation, for it was credited with the result of the happy restoration of the Queen Consort to health from an illness which had confessedly surpassed the skill of

the physicians of the royal household. Our imprisoned amateur alchymist, at the request of some of the prince's attendants prepared a supply of his famous medicine in the Tower laboratory, which he had prepared for his private scientific instruction and amusement. The administration was said to have provoked a perspiration, but "nature was too much spent" to enable it to profit by the attempted crisis.

Why one of the most brilliant geniuses of whom the English nation and race can boast was thus shut off from the world—and allowed to drag out so prolonged a period of years under the appalling shadow of a death sentence—would indeed be a far more depressing subject for discussion by (an admiring) posterity had it not been for the fact that his seclusion proved accountable for the birth of his truly gorgeous History of the World; a folio surely far too little known in this age of "preserved" and tinned scientific knowledge, pigeonholed examinational reference material, thoroughly peptonized philosophy, over-pasteurized logic, and artificial cerebral digestion. The *wherefore* of the same sad item of biographic record is one of the *morbid* curiosities of courtly and aristocratic life; and it is one, I may here point out with confidence, that will be found to offer much special interest to the medical, as well as to the moral, pathologist. We all learned in our young days, from our *Student's Hume* or some other correspondingly proper school or college manual of English history, that Raleigh had been convicted on a charge of treasonable conspiracy. The reader will already have gathered from the quotation matter furnished that there were grounds for suspicion that the *real conspiracy* was a criminal one directed against Raleigh, in the form of a false accusation. The motive was, very inevitably, the subject of copious (private and whispered) comment among the backstairs scandalmongers of the period. It was well known in Oxford in the generation of the famous antiquary, Thomas Hearne. The Salisbury referred to was, politically, the great enemy of Essex, who had supplanted Raleigh in the position of first favorite of his royal mistress. Naturally enough Raleigh ranged himself on Salisbury's side! He made himself, true courtier as he was, agreeable and obliging in every way. His behavior was worthily reminiscent of the method by which he was said to have first captivated the heart of the Virgin Queen. Salisbury was a hunchbacked dwarf,—and is known to have inspired Bacon's *Essay on Deformity*. Raleigh was obsequious enough, even, to undertake the function of procurer for his political chief. A desirable virgin was promised, but the mischievously high spirits of Raleigh induced him to play a very wickedly practical joke. Instead of the expected virgin, a badly diseased prostitute was introduced—with infective results from which the hunchbacked Lord Treasurer was said to have never quite recovered. A scurrilous pasquinade which was circulated after his death embodies the terminal ingredient of this biographic tradition, and also furnishes forth the prominent items of his unpopularity:—

Here lyes throwns for the wormes to eat,
Little bossins Robin, that was so great.
Not Robin good-fellow, nor Robin Hood,
But Robin th encloser of Hatfield wood,
Who seem'd as sent from ugly fate,
To spoyle the Prince, and rob the State.
Owning a mind of dismal endes,
As trapps for fals, and tricks for friends.
But was in Hatfield lyes the Fox,
Who stank while he lived, and died of the Pox.

This loathsomely practical joke of *substitution* appears to have been well known to the hot-blooded aristocrats of the "good old

times" which the average citizen of twentieth century civilization has many a (if not quite every) good reason for rejoicing that he was born at a safe distance from. Another important instance may be mentioned here, the victim of which has transmitted vivid mementos of his existence to Anglo-American posterity—on both sides of the Atlantic. For the sufferer was James Duke of York, in commemorative honor of whom the old name of the Dutch settlement of New Amsterdam was transmuted to New York on the conclusion of the "arrangement" between England and Holland. It is known to the curious explorers of this special nook of biological literature that James II. of England had been, up to the attainment of a certain landmark in his pilgrimage of life, of a disposition quite as amorous as that of the noted "Merry Monarch" himself—but more gravely so, as gifted with a temperament more inclined to the *melancholy* type than was that of his gay brother. One of his most favored mistresses was the wife of a Caledonian gentleman, whose house he visited at opportune seasons. The husband, with the very characteristic instincts of the canny Scot determined to have a bloodless revenge—and an effective one. He knew the time of James's approaching visit: he also knew the geography, morality, and hygiene of the French capital. Thither he went at the fitting time, and on returning inoculated his unknowing wife with the foulest venereal virus that Paris had been able to supply. The result was that James of England developed a phagædenic sore which eroded the greater part of the infected organ, and completely incapacitated him for future sexual indulgence. Thus he became mentally as well as physically depressed, and rapidly lost favor in the eyes of the representative members of both sexes. He sought consolation in religion, as an emotional melancholic is impelled to do, and thereby forfeited his crown and kingdom. The progressive depression of spirits transmuted James from a brave admiral to a cowardly general, and the characteristic dysentery of the beaten soldier sent him to the rear at the Battle of the Boyne, and decorated his memory with the coarsely contemptuous *sobriquet* by which he has ever since been known to the Irish peasantry. From, as well as, "to such base uses"—!!!

Let us now turn for a time from the contemplation of conditions so morbidly instructive, and so morally infectious, to examine some interesting evidence regarding the clinical diagnosis and practice of the physicians of Raleigh's generation, and the composition and therapeutic possibilities of his celebrated "Royal Cordial"—the preparation of which he elaborated during the enforced leisure of his compulsory sojourn in the Tower to the highest degree which the environing conditions of his alchemical enthusiasm permitted. We are informed by Sir Anthony Weldon that:

"Queen Anne, that brave princess, was in a desperate, and beleeved incurable disease; whereof the phisitians were at the furthest end of their studies to finde the cause, at a *non-plus* for the cure; Sir Walter Rawleigh, being by his long studies an admirable chymist, undertooke and performed the cure; for which he would receive no other reward, but that her majesty would procure that certaine lords might be sent to examine Cobham, whether he had accused Sir Walter Rawleigh of treasone at any time under his hand: The King at the Queen's request, (and in justice could do no less), sent six lords, which, I take, were the Duke of Lennox, Salisbury, Worcester, Suffolk, Sir George Carew and Sir Julius Cæsar, to demand of Cobham, whether he had not, under his hand, accused Sir Walter Rawleigh at Winchester, upon

that treasone he was arraigned for. Cobham did protest never, nor could he; but, said he, 'That villain Wade did often solicit me, and, not prevailing, got me, by a tricke, to write my name upon a piece of white paper, which I, thinking nothing, did; so that if any charge came under my hande, it was forged by that villain Wade, by writing something above my hand, without my consent or knowledge.' These six returning to the King, made Salisbury their spokesman, who said; 'Sir, my L. Cobham has made good all that ever he wrote or said'; and this was an equivocating trick, for it was true that he made good whatever he writ, but never wrote anything to accuse Rawleigh; by which you see the baseness of these lords, the credulity of the King, and the ruin of Sir Walter Rawleigh. I appeale now to the judgement of all the world, whether these six lords were not the immediate murtherers, and no question, shall be called to a sad account for it."

That her Majesty used her best efforts—and with her best judgment—in Raleigh's behalf is shown by a letter written by her to the Marquis of Buckingham, the then reigning favorite of King James, which is published in Cayley's *Life* of that undesirable example of social success. She addresses the royal minion as "My Kind Dogge," and the opening sentence is thus worded: "If I have any power or credit with you, I pray you let me have a trial of it at this time, in dealing sincerely and earnestly with the King, that Sir Walter Raleigh's life may not be called in question." (An instructive illustration, surely, of the diplomacy and etiquette of the Court of King James I.!

The known possibilities and methods of promotion at Court were all too graphically and incisively depicted in doggerel verse by an individual named Lane, who is probably not included in any catalogue of their select "men of letters" that has hitherto been made by appreciative readers of the twentieth century. Yet some of his lines display a copious fund of metaphoric illustration, and what may be referred to as a rare focussing faculty in the illumination of persons and events for the mind's eye of the curious inquirer. The following were circulated after the promotion of James's favorite, the notorious Carr:—

ADVICE TO THE SONS OF MEN.

Let any poor lad, who is handsome and young,
With *Parle vous France*, and a Voice for a Song,
But once get a Horse, and seek out good *James*,
He'll soon find the House, 'tis great, near the *Thames*.
It was built by a Priest, a Butcher by calling
But neither Priesthood nor Trade cou'd keep him from falling.
As soon as you ken the pitiful Loon,
Fall down from your Nag, as if in a Swoon:
If he doth nothing more, he'll open his Purse,
It he likes you, ('tis known he's a very good Nurse)
Your Fortune is made, he'll dress you in Satin,
And if you're unlearned, he'll teach you Dog Latin.
On good, pious James, male Beauty prevalleth,
And there men's Fortunes on them he intalleth.

And it is specially interesting, in the present connection, to note that the soaring literary aspirations of the "British Solomon" were believed by some of the best informed contemporaries to have aided in sealing the fate of Raleigh. The reigning monarch did not desire the presence of a courtier—who had long been, in very many aspects, too, conspicuously located "in the public eye"—whose writings so far excelled his own: in manner as well as in matter, in dignity as well as in learning.

Raleigh's *History of the World* was produced for the special instruction of his devoted admirer, Prince Henry, "England's darling," who was his constant visitor in the Tower. The splendid folio now before me was printed in 1614. It was intended to form a first instalment, but the untimely death of his royal pupil removed all incentive to the prosecution of the great

work. After what we have already learned of the moral practices of James's Court, it will hardly cause surprise to any of my readers to find that the popular prince's death was accompanied by suspicions of poisoning, and that backstairs gossip inspired the current report that the monarch did by no means feel bowed down in spirit by the death of his first-born son, as he had been noticing his popularity with increasingly anxious jealousy. Prince Henry's fate was a sadly interesting one, in every one of its aspects; and as comparatively few "reports of medical cases" (with their convincing *post mortem* examinations) have descended to us from so early a date as 1612, I will lay before the reader Bishop Goodman's account of that of the heir to the English crown, who was looked up to by the English people in the days of his buoyant health and youth, as "the most exquisite hopefull prince in Christendom." It runs as follows:—

"In the nineteenth yeare of his age appeared the first symptome of change, from a full round face and pleasant disposition, to be paler and sharpe, more sad and retired; often complaining of a giddy heavinesse in his for-head, which was somewhat eased by bleeding at the nose; and that suddenly stopping, was the first of his distemper, and brought him to extraordinary qualms, which his physicians recovered with strong waters.

"About this time severall ambassadors, extraordinary being dispatched home, he retired to his house at Richmond, pleasantly seated by the Thames river,—which invited him to swim in the evenings after a full supper, the first immediate pernicious cause of stopping that gentle flux of blood, which thereby putrifying, might ingender that fatall feaver that accompanied him to his grave. His active body and violent exercises; for at this time being to meet the King at Bever, in Nottinghamshire, he rode it in two dayes, neer a hundred miles, in the extremity of heat in summer; for he set out early, and came to Sir Oliver Cromwell's, neer Huntingden, by ten a clock before noon, neer 60 miles, and the next day betimes to Bever, 40 miles.

"There and at other places, all that progress, he accustomed to feasting, hunting, and other sports of balloon and tennis, with too much violence.

"And now returned to Richmond, in the fall of the leaf, he complained afresh of his pain in the head, with increase of a meager complexion, inclining to feverish; and then for the rareness thereof called the new disease.

"Which increasing, the 10th of October he took his chamber, and began councel with his physician, Doctor Hammond, an honest and worthily learned man; three days after he fell into a looseness (by cold) fifteen times a day.

"Then removes to London, to St. James's contrary to all advise; and (with a spirit above his indisposition) gives leave to his physician to go to his own home.

"And so allowes himselfe too much liberty, in accompanying the Palsgrave, and Count, Henry of Nassau (who was come hither upon fame to see him), in a great match at tennis in his shirt, that winter season, his looks then presaging sickness. And on Sunday the 25th of October, he heard a sermon, the text in Job: 'Man that is born of a woman, is of short continuance, and is full of trouble.' After that, he presently went to Whitehall, and heard another sermon before the King, where instantly he fell into sudden sickness, faintings, and after that a shaking, with great heat and headache, increasing, his body costine, pulse high, his water thyn and whittish.

"Doctor Mayern prescribes him a glister; after which he rose, played at cards that and the next day, but looked pale, spake hollow, dead sunk eyes, with great drought.

"And therefore Mr. Nasmith should have let him blood by Mayern's counsell; but the other physicians disagreeing, it was deferred; yet he rose all this day, had his fit first cold, then a dry great heat.

"On his fourth day comes Dr. Butler (that famous man of Cambridge), who approved what had bin ministered, gave hopes of recovery, and allowed of what should be given him.

"Mayern, Hammond and Butler desired the assistance of more doctors; but the prince would not, to avoid confusion in counsell. His head-ache, drought, and other accidents increased.

"This evening there appeared, two hours after sunset, a lunar rainbow, directly cross over the house, very ominous.

"The sixth and seventh increasing his disease.

"The eighth his physicians bleed the median of his right arm, eight ounces, thin and putride; after which he found ease with great hopes; and was visited by King, queen, duke, palsgrave and sister.

"The ninth worse than before, and therefore Dr. Atkins asisted their opinions, that his disease was a corrupt putrid fever, seated under the liver, in the first passage. The malignity by reason of the putrefaction (in the highest degree) was venemous.

"The tenth increasing convulsions, greater ravings, and fever violent; and therefore Mayern advised more bleeding, but the patient would not, but applyed pigeons and cupping glasses to draw away the pain.

"The eleventh small hopes, all accidents violently increasing, no applications giving ease, his chaplains continuing their daily devotions by his bedside, the Archbishop of Canterbury, and Doctor Melborn, Dean of Rochester, and others with whom he daily prayed.

"The twelfth no hope. The King with excessive grief removes to Kensington House.

"There were added Doctor Palmer and Doctor Guifford, all imaginable helps, cordialls, diaphoretick, and quintessentiall spirits, and a water from Sir Walter Raleigh, prisoner in the Tower; all these were by consent administered without any effect.

"And so he died at eight a clock at night, Friday, the sixth of November, 1612.

"The corps laid upon a table, the fairest, cleerest, and best proportioned, without any spot or blemish.

"The next day was solemnly appointed for imbowelling the corps, in the presence of some of the counsell, all the physicians, chirurgians, apothecaries, and the Palsgraves physician.

"And this is the true copy of their view, under their hands as followeth:—

"The skin, as of others blackish, but no way spotted with blacknesse, or pale marks, much less purpled, like flea-bites, could shew any contagion or pestilenticall venome.

"About the place of his kidnies, hipps, and behind his thighs, full of rednesse, and, because of his continually lying upon his back, his belly somewhat swollen and stretched out.

"The stomach whole and handsom—within and without, having never in all his sicknesse been troubled with vomiting lothing, or yelping, or any other accidents which could shew any taint.

"The liver marked with small spots above, and in the lower parts with small lines.

"The gall bladder, void of any humour, full of wind.

"The spleen on the top, and in the lower end, blackish, filled with heavy black blood.

"The kidnies without any blemish.

"The midrife, under the filme or membraine containing the heart (wherein a little moysture) spotted with black leadish colour by reason of the bruising.

"The lungs, the greatest part black, the rest all spotted with black, unbrased and full of a dust blood, with a corrupt and thick serocity, which, by a vent made in the lungs, came out foming in great abundance. In which doing, and in cutting a small skin which invironeth the heart to shew the same, the chirurgian by chance cutting the trunck of the great veine, the most part of the blood issued out into the chest, leaving the lower veins empty; upon sight whereof, they concluded an extream heat and fullnesse, and the same more appeared that the windpipe with the throat and tongue, were covered with thick blacknesse.

"The tongue cleft and dry in many places.

"The hinder veins, called piamater, in the inmost filme of the braine, swolne, abundance of blood, more than natural.

"The substance of the braine, faire and cleere, but the ventricks thereof full of cleere water, in great abundance, which was ingendered by reason of the feaver maligne, divers humors being gathered together of a long time before, he not being subject to any dangerous sicknesse by birth.

"The other part by reason of the convulsions, resoundings and hennammings, and of the fullnesse, choaking the naturall heat, and destroying the vitalls by their malignity, have convayed him to the grave without any token or accident of poyson.

"His admirable patience in all his sicknesse might deceive the physicians, never dreaming danger.

"The urines shewd none; and the unknown state of his greatest griefe lay closely rooted in his head, which in the opening was discovered.

"But the picture of death, by a strange extraordinary countenance, from the beginning possessing him, hath been the cause that some vainely rumored that he was poysoned.

"But no symptoms appearing, it is surmised that he might be poysoned by a sent.

"But indeed he died in the rage of a malicious extraordinary burning fever."

This uniquely interesting report of the illness, death and autopsy of the heir to the British crown will, I trust, be now found by the reader to have given him a new and more stimulating curiosity regarding the "water," or *Royal Cordial* of the "prisoner in the Tower," the use of which was superadded to the more strictly professional treatment of Sir Thomas Mayerne and his various colleagues. The contents of that preparation were frequently discussed after Raleigh's death—not only in England, but on the Continent. The most prominent French chemist of his day, Le Febvre, devoted a special treatise to it. The following is his account of the composition of

Raleigh's ROYAL CORDIAL:

Eximium Cordiale Regium: multis rebus necessariis auctum, secundum consilium & approbationem Illustrissimorum Virorum, D. D. KENELMI DIGBY, Equitis Aurati, & Serenissimæ REGINÆ MATRIS Cancellarii, & D. D. ALEXANDER FRAISER, Equitis Aurati, & Serenissimiæ Potentissimi Regis Caroli Secundi, &c., Archiatrorum Comitis.

Recipe:

Rasuræ Cornu Cervi libram unam;
Carnis Viperarum cum Cordibus & Hepatibus uncias sex;
Florum Boragmis, Buglossæ, Rorismarini, Calendulæ, Betonicæ, Coronariæ rubre, Roris Solis, Rosarum rubrarum, & Sambuci, singulorum fibram semissem;
Herbarum Scordii, Cardui, benedicti, Melissæ, Dictamni, Cretici, Menthæ, Marjoranæ, Betonicæ, singularum manipulas duodecim;
Granorum Kermes recenter in rob redactorum, Cubebarum, Cardamomi Majoris, Baccarum Juniperi, Maceris, Nucis Myristicæ, Caryophy Norum, Croci singulorum uncias duas;
Cinnamomi acutissimi, corticis ligni Sassafras, flavedinis malorum Citriorum & Aurantiorum, singulorum uncias tres;
Lignorum Aloës & Sassafras, uniuscujusque uncias sex;
Radicum Angelicæ Valerianæ, Carlinæ, Fraxinellæ seu Dictamni albi, Serpentariæ Virginianæ, Ledoariæ, Tormentillæ, Bistortæ, Aristolochiæ longæ, rotundæ & cavæ, Gentianæ & Imperatoriæ, singularum uncian unam & semissem.

Omnia incisa & grosso modo contusa in vase ideneo prosita cum Spiritu Vini rectificato extrahantur secundium Artem Tincturæ filtratæ in extractum mediante, in Mariæ balneo, distillatione evaporentur. Magma expreesum comburatur; Cineres reverberati per aquam elixivientur, unde Salpurum lege Artis-paretur, quod Extracto miseeatur. His ita peractis, huic Extracto adde, ut Artis est, . Pulverom sequentem cæteraque ingredientia.

Recipe:

Lapidum Bozoardicorum orientalium & occidentalium verorum, uniuscuinsque uneiam sepissem;
Magisterii solubilis Perlarum orientalium uncias duas;
Magisterii solubilis Corallorum rubrorum uncias tres;
Boli orientalis, terræ sigillatæ, veræ, Unicornu mineralis, Cornu Cervi Philosophicè preeparati, & Cornu Cervi calcinati, singulorum unciam unam;
Ambræ griseæ electissimæ in Essentiam redactæ, unciam unam;
Moschi orientalis optimi essentificati, drachman unam & semissem;
Croci Solis cum tinctura Antimonii Basilii Valentini parati drachmas duas;
Sacchari candisati albi subtilissimè pulverisati, libras duas.

Exhis omnibus mixtis & ex Arte unitis fiat Confectio verè Regia, quæ ad usum reservetur in pyxidibus apprimè clausis.

The above prescription must, I confidently anticipate, appear to some readers suggestive of the fearless *Buccaneer* of that stormy generation, sailing the Spanish Main of Science—blunderbuss in hand, loaded to the muzzle with every projectile which the mischievous ingenuity of man had devised for the purpose of disabling an enemy! And it is, I would suggest, by no means difficult to conceive how an amateur therapeutist could come to fancy that most, at least, of the germs and factors of disease—at least of such specimens of disease as were not essentially (and therefore unavoidably) fatal could be effectively withstood, and even exterminated by repeated whiffs of grape-shot and shrapnel taken from the magazine furnished according to the instructions contained in that document. The list includes all the most valued remedies—as recognized and classified according to the best therapeutic science of the period; and its contents are representative of all three Kingdoms of Nature: animal, vegetable, and mineral. The items are too numerous to be discussed in complete detail, but I will take the opportunity of laying before the reader some of the scientific lore of those older centuries, as connected with the physical properties and clinical efficacy of some of the more curious and (formerly) celebrated.

(To be continued).

MEDICAL HINTS.

Hydrastis is a most reliable remedy in uterine hemorrhage, but in severe cases it must be given in large doses.

—*Med. Summary.*

CORRESPONDENCE.

AN EXPLANATION.

TO THE EDITOR OF AMERICAN MEDICINE:

My attention has been called to AMERICAN MEDICINE for February in which an article appears on page 65, entitled "A Lucid Parallel," charging me with appropriating Dr. Crutcher's article which appeared in AMERICAN MEDICINE for June, 1910, on appendicitis, to my own use in the discussion of Dr. Deaver's paper on Appendicitis in Childhood, at the St. Louis meeting of the A. M. A. in June, 1910.

After publishing Dr. Crutcher's article on appendicitis and placing my discussion for comparison (which should appear word for word as in concluding my discussion, after prefixing the statement that Dr. Crutcher's ideas best expressed what I most desired to emphasize, I read from Dr. Crutcher's article the paragraphs in question) AMERICAN MEDICINE goes on to say that "The situation hardly needs any comment," etc.

It is very apparent to me, regardless of how it may appear to the editor and those who have read his article in AMERICAN MEDICINE for February, that the editor was not in possession of the true facts as they really existed and had evidently no knowledge of the correspondence that followed, both with Dr. Crutcher and the *Journal of the A. M. A.*, after the stenographic error was discovered, among which occurs a very gentlemanly acceptance of the explanation of the stenographer's error, who failed to give due credit for the quotation, from Dr. Crutcher himself and judging from his letter I have not the slightest suspicion that Dr. Crutcher entertains any such thought as the article in AMERICAN MEDICINE portrays. On the other hand, to verify the above, I herewith enclose a copy of Dr. Crutcher's letter of Jan. 14, 1911, to the *Journal of A. M. A.* which is self explanatory and which goes to show that the matter was amicably settled at an early date by Dr. Crutcher, the Journal and myself.

If, in the editor's opinion, the remainder of the correspondence which was of a private and friendly character, should be published, after first obtaining the permis-

sion of Dr. Crutcher, in order to satisfy AMERICAN MEDICINE and its readers that Dr. Crutcher was not held up and deliberately robbed while some two to four hundred of the Surgical Section of the A. M. A. were hypnotically glued to their seats, with the chairman and officers of the Surgical Section seated on the platform, I shall take pleasure in producing the same.

Trusting that you will publish the above in the next issue of AMERICAN MEDICINE as a reply to the article in the February issue, I am,

Very respectfully yours,

M. M. LUCID.

OBITUARY.

The death of Dr. A. O. J. Kelly.—It was with profound sorrow and regret that the physicians of America learned February 23, 1911, of the death of this brilliant young physician. Coming so unexpectedly, his demise was indeed a shock, for a great many did not know that Dr. Kelly was ill.

Although but forty-one years old, Dr. Kelly had accomplished much more than many capable men compass in the allotted three score years and ten. He was a prodigious worker but like the majority of those who work effectively, so fine was his poise and mental balance, that he never appeared over-rushed. With much of his time devoted to teaching, including his clinical and laboratory work, it was his editorial labors and contributions to the contemporary literature of medicine that made his name known and respected throughout the scientific world. For the last five years, Dr. Kelly edited the *American Journal of the Medical Sciences,* a monthly medical publication of signal scientific and literary merit. No other medical journal has stood higher or done more for modern medical literature. The reason is not difficult to determine, for while Dr. Kelly always kept himself modestly in the background he slighted nothing, and was conscientious and thorough in even the smallest and least consequential matters. His training and experience added to certain splendid talents that made him a keen, and comprehensive observer, gave to Dr. Kelly a grasp of the medical sciences that few men ever enjoy. As a result he had an insight to disease in its clinical expressions, that won for him a well deserved reputation as a diagnostician. Many times he would refuse to express an opinion, for he was frankly opposed to "snap" diagnoses, but when he did declare himself, his judgment almost invariably proved absolutely sound and correct.

Quoting from the *American Journal of the Medical Sciences,* Dr. Kelly was born in 1869, and entered the Medical Department of the University of Pennsylvania in 1888, graduating in 1891, with a highly creditable record. "He then became resident at St. Agnes' Hospital in Philadelphia, where he attracted attention by his unusual knowledge of internal medicine and his resourcefulness in treatment. Thence he went to London, Dublin and Vienna for further study. In the last named city he was easily the leader among American post-graduate medical students, and it is said that he became as well known there as in Philadelphia. With characteristic warm-heartedness he freely gave of his experience to aid those who came later. Returning to Philadelphia he rapidly made his way to the front, becoming Physician to St. Agnes' Hospital, Pathologist to the German Hospital, and rising from the position of Instructor to that of Assistant Professor of Clinical Medicine in the University of Pennsylvania. To those who knew him it was evident that this was but a station on the road of future advancement. During the past year he had delivered the didactic lectures on practice, a duty usually reserved for the head of the department. These lectures were brilliantly successful. For many years he was Professor of Medicine in the University of Vermont, and his improvements in the method of teaching gave this institution an enviable position in New England. He was also Professor of Pathology in the Woman's Medical College of Pennsylvania. His literary work is extensive and important. Besides numerous contributions in periodicals, all of which are characterized by intellectual grasp and scholarly form, he recently completed a full Text-book on Practice, which is recognized as the best in many respects that has yet ap-

peared, and he wrote the article on Diseases of the Liver in Osler's *Modern Medicine*. In collaboration with Professor John H. Musser he had partly issued a composite work on *Treatment* in three volumes by many authors.

Physicians of Philadelphia, the Association of American Physicians, the Congress of American Physicians and Surgeons, the County and State Medical Societies, the American Medical Association, the Interurban Clinical Club, the Pathological,



A. O. J. KELLY.

From the Evans Studios, Philadelphia.

Dr. Kelly recognized the importance of keeping in touch with the members of his profession, and in turn his own value to his colleagues was appreciated and shown in his election to many distinguished bodies. He was an active member of the College of Pediatric and Neurological Societies. All these he served faithfully, and in several instances as their presiding officer."

In concluding these remarks, no higher tribute can be paid to this brilliant young physician than to say he was a true friend,

a kind and capable physician, and a gentleman at all times and under all conditions. With a personality that won the regard of every one who came to know him, and capabilities that promised much for mankind, Dr. Kelly's life reflected the best and noblest in a calling that he and so many other physicians love, because of the opportunities afforded for earnest unselfish service.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Gastric Ulcer.[1]—According to Sherrill the following symptoms are of great value in making a diagnosis of this condition:

(1) *Pain.* We consider this symptom to be of the chiefest import in the diagnosis since it is more certain to be present than any other, and is, next to hematemesis, more likely to bring the patient to the physician for relief. Pain is a more or less constant occurrence soon after eating. The time of its appearance will depend, to a marked degree, upon the site of the ulcer. Temporary relief is obtained by vomiting, but the pain returns soon as a gnawing sensation, demanding food. Sometimes a momentary relief follows the ingestion of food, but this is of short duration. The patient may find alleviation of the pain in a certain posture, depending upon the location of the ulcer, in the prone position if the ulcer is on the posterior wall, etc. The site of the pain may be diffused in the epigastrium, or more often sharply localized over the lesion. Boas insists upon the importance of localized pain at the level of the eleventh dorsal vertebra on the left side posteriorly. The character of the pain is a peculiar, rather characteristic burning and gnawing sensation.

(2) *Sour Stomach.* This is a very prominent symptom and the history will show its persistence for a long period before the development of pain, hemorrhage, or other indication of ulcer.

(3) *Nausea.* A sense of faintness at the stomach and vomiting are present in the large number of cases. The material ejected is an acid sour stuff, often quite offensive. The latter is especially true where cicatricial stenosis is present.

(4) *Hematemesis.* While often the first symptom noted, it does not occur so frequently as was formerly thought. It is present in about one-third of the cases in the experience of most observers. Hemorrhage from the bowel is not a prominent symptom of gastric ulcer, though some claim the presence of occult blood in the feces to be of great diagnostic value.

(5) *Weight.* Loss of weight is a most common accompaniment of ulcer when it has existed for a considerable length of time.

(6) *Anemia.* Anemia is present in almost every case which is sufficiently advanced to be recognized by the attendant. Sometimes it is very marked, especially where much hemorrhage has been present.

The physical examination will reveal tenderness in the epigastrium, most marked over the site of the ulcer and, if the latter is on the anterior wall of the stomach, and accompanying this sign is a well-marked rigidity of the rectus muscle. A tumor is not frequently demonstrable, but may at times be noted and its presence is by no means diagnostic of cancer. Many such masses resulting from thickening of the stomach wall about an ulcer and from adhesions over it, have disappeared following a gastro-enterostomy. The presence or absence of dilatation of the stomach appears to us not to be of great diagnostic import early in the case, from the fact that it may be present as a result of pyloric spasm when an ulcer lies at that orifice, while the stomach may be empty and contracted when there is great irritability as the result of an ulcer upon the lesser curvature or near the fundus. Dilatation will often be present late in the case after pyloric stenosis has resulted from cicatrization.

In addition to the history, subjective and objective symptoms, we consider the chemical analysis of the gastric contents of very material value in diagnosis, always keeping in mind, however, the danger of perforation from the use of the tube in cases where the wall is much attenuated.

[1]J. G. Sherrill, M. D., *St. Louis Med. Review*, February, 1911.

The Influence of Fibroid Growths on Pregnancy.[1]—Johnson says that the influence of previously existing fibroid tumors upon the pregnancy may be dogmatically stated as follows:

1. If attached to the fundus or if subperitoneal, little or no trouble need be feared.

2. If interstitial and encroaching upon the uterine cavity, we may expect malposition of the fetus, placenta previa, interference with uterine contractions, and hemorrhage during labor and abortion.

3. If submucus, abortion, hemorrhage and sepsis.

4. If located in or about the cervix, they may prevent delivery at full term altogether, or if delivery be accomplished through obstetrical surgery, it is likely to be followed by hemorrhage and sepsis.

5. If intraligamentous or intrapelvic, they may cause all the trouble just stated if they cannot be pushed up out of the way.

6. Small fibroids attached high up with long pedicles, may, if they become displaced low down in the pelvis, produce all the "dangers" which tumors do when growing in this po-

[1]Jos. T. Johnson, M. D., Washington, D. C., *Am. Jour. of Obst.*, February, 1911.

sition, unless they can be dislodged by digital manipulation.

7. Fibromata have been stated to be a cause of extrauterine pregnancy undiscovered, however, until time of rupture and emergency operation.

A Simplified Method for Estimating the Coagulation Time of the Blood.[1]—*Apparatus and Method.* Thin glass tubes 1.5 mm. in diameter and about 7 inches in length are used. A pint *Thermos* bottle is employed, and its ordinary cork is replaced by a rubber cork perforated in three places. In these perforations rest two brass tubes, 7 inches long and just large enough in calibre to hold easily the glass blood tubes. The third perforation in the cork contains a thermometer. The apparatus rests on its side on a special stand, which prevents it rolling about. The bottle is filled with water at the temperature at which it is desired to work, say 20° C., and the cork is put in position. The temperature of the contents will remain for fully an hour at the same point in a room of 55° F. or more.

Two glass tubes are partially filled from the same drop, the blood being made to run nearly to the far end of each, and each as filled is placed in a brass tube of the thermostat, the first in that to the left and the other in that to the right. Then the protruding ends, which are the ends at which the blood entered the tubes, are sealed at one's leisure with a spirit lamp. If the test is being made upon an apparently healthy individual, in about five minutes the first tube is drawn out of its holder by the left hand (which is covered with a thick glove, in order that the heat of the fingers may less affect the tube) and touched with a glass-file and broken across between one's fingers and thumbs, and the broken ends are slowly separated. Probably the blood column also breaks across sharply, if one may so speak of a column of fluid. The tube is at once replaced in the thermostat. In half a minute the second tube is removed and treated in the same way. Soon on breaking the tube across and separating the ends a thread of fibrin appears between the broken ends. At once the tube is broken farther on, and probably the thread of fibrin again appears. Very rarely a thread appears at the first break and not at the next one. This would be counted as a negative finding, and the tube would at once be replaced in the thermostat and tried again in fifteen seconds. If one be careful to begin the breaking at the first blood which entered the tube, such a thing seldom happens. One of the alternating tubes having given a positive finding, the other one almost certainly will do so in the next half minute, but if not, then usually in the next. With quick working one can try them every quarter of a minute, but the half minute intervals give more time to make sure that a given tube has really coagulated, as it can be broken several times before the next one is due.

The blood must flow easily from the puncture, as it was found squeezing of the part produces a blood that coagulates with greater speed. The blood that first flows from the wound is always used, and the tubes are filled as rapidly as possible. It is easy after a little practice to have both tubes filled and safely in the thermostat within thirty seconds of the time of puncture.

The temperature of the room in which the experiment is carried out seems to have a slight influence in the results, there being a slightly longer reading in a cool than in a warm room. This is probably accounted for by the color condition of the tubes before use, the finger punctured, the glove worn by the operator, etc. To lessen the influence of the first source of error here, the tubes should be placed in the thermostat for about a minute before using them in a cool room.

The temperature at which the tubes are kept during the experiment has a most marked influence upon the coagulation time.

At any given time the coagulation time of an individual, as measured by this method, varies very little, showing that the experimental error is small. It is quite unusual to find in several tests made one after the other in rapid succession with blood from the same individual that the readings vary more than one minute, and more often they come out exactly the same. But on another day, at the same hour and at the same temperature there may be a difference of perhaps two or even three minutes from the results of the previous day. This difference is hard to explain, but undoubtedly exists.

The conclusions which the writer draws from his observations on normal blood are:

1. The temperature at which the experiment is carried out makes a marked difference in the results. This difference is about one minute for each degree Centigrade. At about 20° C. (68° F.) the average coagulation time is about eight and one-half minutes.

2. Age (beyond early childhood) and sex seem to have no influence upon the coagulation time.

3. A diurnal variation does not seem to occur; possibly there is a slight increase in coagulability as the day advances, but this is probably due to experimental error.

4. There appears to be a slight tendency to decrease in the coagulability some two hours after a meal, but it is too slight to put much weight upon.

5. Calcium lactate does not appear to have any marked influence upon the coagulation time of the blood of normal individuals.

6. Citric acid appears to have a slight retarding influence upon the coagulation.

7. Considerable variation occurs in the coagulation time of a healthy individual from time to time, the nature of which is not evident.

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[1] R. D. Rudolf, M. D., *Am. Jour. Med. Sciences*, December, 1910.

The Early Diagnosis of Cancer of the Stomach.[1]—The only chance for a successful operation in cancer of the stomach, that is, one by which the new growth is removed, lies in early diagnosis of the affection. This is a matter of very considerable difficulty, as at this stage little more can be made out than dyspepsia, with loss of appetite and vomiting some time after a meal. Von Adler publishes in the *Wiener klin. Woch.* three tests, which are obtainable at an early stage of the disease—Salkovski's, Adler's, and Salomon's.

Salkovski tests the urine for albumose, after addition of a 5 per cent. solution of phosphoric acid and centrifugalising. It is not, however, at all to be relied upon, because, in 40 cases of cancer, a positive result was only obtained in about two-thirds, and the presence of albumose in the urine is not peculiar to cancer.

Adler's reaction is much more trustworthy, and consists in seeking for traces of blood in the fæces, after the patients have abstained from meat for a few days. The fæcal materials are diluted with a little water, to which have been added a few drops of glacial acetic acid. Into this mixture is poured a hot solution of benzidine in absolute alcohol, and the test is completed by adding a few drops of oxygen water. If blood is present, a blue-green colour appears. It is more sensitive than Weber's test with guaiacum, and is always to be found when a gastro-intestinal lesion bleeds slightly, thus proving the presence of an ulcer or a cancer.

Salomon's test, according to some German writers, provides a most valuable means of diagnosis. The stomach is washed out at night, until the solution is returned perfectly clear. The following morning no breakfast is given, but the lavage is repeated with the same solution, half a litre of normal saline. When this has been recovered from the stomach the amount of albumen contained is determined by Esbach's tube. If more than 20 m.g. per cent. are present, Salomon declares that cancer is present. Romano's investigations make the result appear much less positive, and he considers that every gastric retention, and every ulcer of the gastric mucous membrane can give a positive reaction. Taken singly, these tests are not conclusive, but, when all three are obtained, they afford strong presumptive evidence of the presence of cancer, and certainly of ulcer.

Einhorn (*Deutsche medizinische Wochenschrift*) has simplified the benzidine test. Strips of paper are soaked in a saturated solution of benzidine in glacial acetic acid and dried. A piece of this paper, held with ivory forceps—for it must not be touched by the hand—is dipped into the solution suspected to contain blood. Over the paper is then poured a few drops of peroxide of hydrogen solution, and it is laid on a white porcelain plate. If blood is present, a green to blue colour appears in from a few seconds to a minute afterwards. The test is made even more exact and more certain by using an ether extract in place of the solution of the matter to be examined. It is as equally available for the contents of the stomach as for urine, and also for fæces, a pea-sized piece being rubbed up with 2 c.c. of water, and the reagent-paper dipped into this, the perioxide solution being poured over it immediately after removal.

[1] *The Practitioner*, London, March, 1911.

TREATMENT.

How Long Must a Woman be Kept in Bed After Childbirth?[1]—This often discussed question has once more been brought forward, this time by Drs. Brandt and Horn (*Deutsche Med. Zeitung*, 3/11). They commence by the statement that involution of the uterus after expulsion of the fœtus and afterbirth goes steadily on from day to day, but with considerable individual variations. If the process is delayed it is mostly from some uterine mischief (infection, retention of remnants of membrane). In multipara the process of involution goes on rather more slowly; as to whether not suckling the infant has any influence in the matter there are not sufficient data to show. The fundus uteri reaches above the symphysis pubis longer than is generally acknowledged by most writers; they come to this conclusion from the fact that in none of their cases did the fundus fall below the symphysis before the ninth day. This fact is of some importance from a medico-legal point of view. From their measurements, they conclude with Hansen that on the fourteenth day the uterine cavity has a depth of 10 cm. The regeneration of the mucous surface of the interior of the uterus is frequently incomplete on even the fifteenth day. Small lacerations of the introitus and vagina are usually healed by the fourteenth day, but not those of the portio. Lying-in women do not complain of headaches or any feeling of depression if they are kept in bed as long as fifteen days. By the eleventh and twelfth day the genital floor has so far recovered its tone that no tendency to prolapse was observed at that date. The slightest sign of fever on the eighth or tenth day or later should be decisive against any getting up on the part of the patient. Those who are in favour of early getting up think that involution goes on more rapidly and energetically when the patient has left her bed, but no one has shown any proof of this, or why it should be so. The writers are of the opinion that the fact which they have proved, viz., that the fundus uteri is above the symphysis on the ninth day after the birth of the child, is a contradiction of the whole teaching of modern works on general pathology and treatment.

They would, therefore, utter a distinct and earnest word of warning against that teaching that permits a lying-in woman to get up

[1] *Med. Press and Circular*, February 8, 1911.

before the tenth or twelfth day, as by doing so involution and healing of tears will be retarded, dangerous infections will more readily take place, and a disposition to genital prolapse will be favoured.

The Treatment of Erysipelas with Magnesium Sulphate.[1]—In an extremely interesting paper Choksy refers to the work of Tucker of the Philadelphia General Hospital with magnesium sulphate in local inflammatory conditions and speaks of its value as follows:

Firstly, the drug can be obtained at any country store, is easily made into solution, is inexpensive, non-toxic, and clean; it is also easy of application if the directions are properly followed.

Secondly, the patient promptly obtains relief from the distressing local symptoms usually present.

Thirdly, the temperature rapidly falls to normal usually during the second twenty-four hours, and does not rise again, thereby eliminating possible complications from fever.

Fourthly, internal medication is not indicated in uncomplicated cases, the only treatment being a milk diet for the first few days, or, to be more accurate, until the temperature reaches normal.

The method of application suggested by Choksy is as follows:

A saturated solution of magnesium sulphate in water (preferably strained through muslin) is to be applied round the limb or on the face as a mask, extending well beyond the inflamed area in 10-15 layers of gauze or a thin layer of absorbent cotton or lint, and covered with oiled-silk or wax-paper. The dressing should be wetted as frequently as it gets dry, about once in two hours. It should be removed once in 12 hours for inspection and immediately reapplied. The affected area should not be washed during treatment. Dr. Tucker says that the attendants complain of partial loss of sensation and tingling of the hands and arms lasting for some hours.

Mode of action.—No explanation is forthcoming as to how these effects are produced by magnesium sulphate. The editor of the *Therapeutic Gazette*, from personal experience and reports of other observers, whilst endorsing the utility of the treatment, that it certainly gives extraordinary results in the treatment of acute articular rheumatism, erysipelas, and the relief of pain associated with local inflammation, admits that the method, like several others in common use, is purely empirical, and that the local action of magnesium sulphate cannot be explained on any known experimental or other data. Nor is its osmotic influence adequate to explain these effects, as other salts having the same action do not bring about the same results. We must for the present at least be content with the empirical use of the method, leaving the explanation of its action to the future.

The Operative Technique in Acute Suppurative Appendicitis.[1]—Following is the procedure arrived at by Bartlett after years of simplification:

1. The abdomen is invariably opened through a gridiron incision immediately over the dull area if one can be made out, otherwise at McBurney's point. It is very rarely the case that this incision has to be enlarged, which can be done, though with slightly greater difficulty than is the case in ordinary through and through openings. My experience has taught me that it is just as applicable to pus work as to any other.

2. Immediate search for the appendix is made, it being my practice always to remove it if it can be found without unnecessary loss of time or disturbance of many adhesions in the presence of a large amount of pus. I do not often go so far as to turn out the head of the cæcum in order to find the appendix, but consider this advisable where this carries with it the adherent viscera which completely surround a collection of pus, to be opened outside of the abdomen at the removal of the appendix. It is rarely my custom to do much or any so called walling off with gauze in the search for the appendix. We long ago learned that intraabdominal tension forces liberated pus toward the opening in the wall rather than in any other direction; on the other hand undoubted harm is done by gauze packs; at the same time ready access to the viscera is interfered with. While in clean work I make a peritoneal autoplasty when working on the appendix or any other viscus covered by peritonæum; in these pus cases I simply tie a strand of catgut around the base of it, including the mesenteriolum and cut it off. Not only does this save time but the appendix and adjacent cæcum are often so indurated and friable that ordinary Lembert stitches will not hold. By way of justifying a search for the appendix in the acute stage, it is hardly necessary to state that a variety of dangerous complications are avoided by its removal. In a very small percentage of these cases a fæcal fistula has made its appearance, but not one has failed to close spontaneously in a few days.

3. Drainage is instituted in every case where exudate is met with. This is most readily and accurately accomplished to my thinking by tying at *its middle* a strip of rubber dam or a ribbon cut from an old rubber glove in the catgut ligature on the base of the appendix mentioned above. This treatment suffices for ordinary cases, although, of course, I am not here dealing with remote pus collections which are infrequent early in the disease and which must be considered as complications not to be

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[1]N. H. Choksy, M. D., Freiburg, Germany, *London Lancet*, February 4, 1911.

[1]Willard Bartlett, M. D., St. Louis, *New York Med. Jour.*, March 4, 1911.

dealt with in any simple routine procedure. Drainage is further aided by placing the patient in bed on the face directly after the operation. In a few days the catgut ligature is absorbed and the drain comes out of its own accord.

4. Suture of the deeper layers of the abdominal wall is never attempted unless the muscle splitting incision has been considerably enlarged. The drain practically fills the small dead space resulting from the spontaneous closure of such incisions, thus reestablishing intraabdominal pressure sufficiently for our purpose. In the middle of the skin wound is placed one or two clips at each side of which one half of the rubber drain emerges, its two ends being fastened together by a clip which prevents the possibility of its being drawn into the abdomen. Thus one has practically coapted the edges of an infected wound without any danger of pus retention in the depths or under the skin. After the two drains have been removed at the end of a week the resulting defects in the skin are closed with adhesive plaster and in two weeks after the operation most of these patients are out of bed with a solid abdominal wall and with the skin wound completely healed or almost so.

HYGIENE AND DIETETICS.

Diet in Children.[1]—Sill suggests the following schedule in compiling a suitable diet for both healthy and malnourished children. One-half hour for breakfast, 7 to 8 a. m.: Glass of milk, baked apple, or orange. Cereals: Oatmeal, cracked wheat, farina, hominy, etc., 2 to 3 tablespoonfuls of one of these cereals, with cream and milk. Eggs, 1 to 3, according to the age of the child, either soft boiled, scrambled, poached, or in the form of an omelet; or a lamb chop or fish for variety occasionally. One to three slices of bread, three-eighths of an inch thick, with butter. Ten a. m.: An apple, a banana, a couple of graham crackers, or a small glass of milk. One hour for dinner, 12 to 1 p. m.; Soup, bread and butter. Meats: Rare steak, rare roast beef, mutton, or chicken (fish may be given once a week). From ⅛ to ¼ of a pound of meat should be given, according to the age and capacity of the child. Baked or boiled potatoes, with butter and salt, or stewed with milk, and a green vegetable, such as spinach, carrots, string beans, green peas, cauliflower, squash, a purée of dried soy beans, or dried peas, may be given three or four times a week at this meal, or baked beans may be given, 1 to 2 tablespoonfuls, and this will in a measure take the place of meat. A glass of milk. Hominy or rice may be given three or four times a week (2 to 3 tablespoonfuls). A simple dessert, such as plain rice pudding, plain bread pudding, custard, blanc mange, ice cream. At 4 p. m.: An apple, peach, or pear may be given if the child is hungry. Half an hour should be taken for supper, at from 6 to 7 p. m.: Bread and butter and a glass of milk, or bread and milk, milk with one of the cereals, bread and butter with jelly, fruit juice or syrup, a bit of cold meat, or omelet, or scrambled eggs.

[1]E. M. Sill, M. D., New York, *N. Y. Med. Jour.*, January 28, 1911.

Complemental Feeding.[1]—Southworth states that there are two chief requisites to be considered in giving complemental feedings, and these are: First, that they shall furnish food in such simple and assimilable form that they will not disturb the digestion of the infant; and, second, that they shall be so small in quantity as not to exceed, when added to the previously ingested breast milk, the normal capacity of the stomach at this age. For this purpose, complemental feedings after each nursing, of one half ounce, or later one ounce, are usually sufficient for recently born infants. The increase to one ounce may be made when the growth and age of the infant indicate a larger stomach capacity, or earlier if the residue in the stools or the weight of the infant before and after nursing demonstrates a larger deficiency in the breast milk. Materials for these small complemental feedings which have met the indications have been barley water, whey, or one of the proprietary combinations of maltose, dextrose, and dry condensed milk—the latter in the proportions of one-half of a fairly level teaspoonful to one-half ounce of boiled water. Of these, barley water is naturally limited in its usefulness to instances in which the deficiency of the breast milk is not very great, and since its food value is small, it cannot be used alone for a very long period. It is, however, not only an aid to the proper digestion of certain over rich breast milks, but is also an excellent medium for the addition of cow's milk, if the subsequent progress of the case proves that with further failure of the breast milk more food is necessary. Moreover, nursing infants so fed make the transition from breast to bottle feeding without noticeable difficulty. Whey and the maltose-dextrose-milk preparations have proved most useful in his hands, inaugurating prompt gains without attendant disturbances of digestion, and may be continued for considerable periods if the breast milk holds its own. They may, not infrequently, be discontinued when it seems probable that the mother is able to furnish all the breast milk needed, but if the nursings gradually fail they should, of course, be replaced by suitable modifications of fresh cows' milk, since neither is suitable to maintain well rounded development when given exclusively.

[1]T. S. Southworth, M. D., *Jour. A. M. A.*, Feb. 4, 1911.

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The unearned increment does not seem to have the slightest relation to medical matters, but as it is a subject of intense interest to publicists, sanitarians must learn the arguments now being worked out to justify society in taking what is said to belong to it and not to the individual. It has always been accepted as an axiom that no rapidly growing community can possibly tax itself sufficiently to provide those sanitary necessities which cities of slower growth obtain only after decades of effort. It is now claimed that increased real estate values really belong to the people who created them and not to the man who was lucky enough to own the property and who did absolutely nothing to add to those values. It is therefore said that the unearned increments of valuation should yearly be taken to construct water and sewer systems, to pave streets and to use in removing wastes and combatting disease. The idea is so revolutionary and borders so closely on the propositions of certain radical socialists, that there has been a great outcry against it, particularly from the English bankers who represent the people possessing the unearned wealth. Nevertheless the proposition is being seriously discussed by statesmen and has been taken up in America by conservative men who cannot possibly be accused of ill considered radicalism. The subject is thus brought into the sphere of practical sanitation and the medical profession must study the arguments, *pro* and *con,* to determine whether they are not justified in joining in the movement to put an end to preventable disease by methods never tried because money was never available.

The ownership of increased valuation is the question in dispute. It is now openly claimed that if New York City should tax itself fifty million dollars to build subways which would add fifty millions to the property value of the regions served, the increase belongs to the community who can take it ethically by special taxation. A few noblemen whose ancestors happened to own a part of London are now drawing millions in yearly rentals from the very people who made the land valuable, and the Government has announced the policy of partial confiscation to use in preserving the health and lives of these people. The men whose ownership has never before been questioned are saying that this is a revolution and the statesmen are calmly replying that it is only one of the long series of revolutions which the progress of civilization has forced upon the nation peacefully or forcefully, and are proceeding with the plans. Owners of New York are squandering millions in Europe and owners of London, millions in all parts of the world,

while in each city disease and death are present for the want of just that much money for sanitation. These are the facts which are directing the serious attention of statesmen to the practical problem of shaping legislation which will enable them to use this property value in defense of the people who created it. Public health is bound to be enhanced if these ideas spread to a practical application, and the medical profession is more vitally interested than any other.

The congestion of population of the last few decades has caused enormous changes in medical practice and there is no reason to doubt that the ideas of a few dreamers are bound to make still further revolutions. Society has long announced its duty to support the aged and infirm, old age pensions being but a modification of method, and it seems to be on the point of guaranteeing their health in the productive period of life. Immense sums of money must be spent in preventing typhoid, for instance, as we are drifting towards a state of public opinion which will look upon a patient as fully justified is suing the city for heavy damages for failure to guard his health. What is more remarkable still, there is an increase of the feeling that a sick man is a public charge. In Europe the idea has spread further and taken deeper hold than in America, and there are more and more English physicians predicting a time when medical practice will be performed by public officials—a novel idea which created considerable comment when first suggested some years ago. It does seem that the theory that the public can take from the individual what he has not earned but has always claimed as private property, is linked inseparably with the idea that the public has also new duties to the individual in the way of preserving his health. The medical profession is thus vitally interested in these revolutionary suggestions of publicists, and it certainly behooves us to know the facts, that we may put our house in order. When populations were very sparse, each man depended largely upon himself but we are already in such dense masses that we are dependent upon society for many of the essentials of existence—pure water for instance is not attainable except by such concerted action. It is not a great step to the point of depending upon society for preservation or restoration of health. The tremendous modern concentration of populations is responsible for those remarkable unearned increases of wealth, and it is not at all unlikely that the proposed new taxation, if it is ever levied, will be used to pay physicians for curing the diseases the sanitarians failed to prevent. It all depends upon whether or not it is decided that society owns what it creates.

A National Sewage Commission is the last suggestion in the present discussion of the ways and means of reforming our present methods. Most of the problems to solve are local and each has its special difficulties not found elsewhere, so that every community must work out its own salvation in the future as in the past. Civilization also is becoming so complex that a central government cannot possibly attend to local details but must confine itself to the larger problems of coordinating the works of localities, and represent them collectively in international relations. But it is in these purposes of a central government that we find the reasons why it must take up the matter of regulating sewage disposal. In the past, each community has solved the

problem by simply dumping its filth on some neighbor—in accordance with the American idea of liberty to do as we please. The central government could not interfere and was forced to let the municipalities fight out their own troubles, but now it is found that the larger sewage schemes are crossing state lines and each state is complaining of being injured by its neighbors. Willy-nilly, the Federal Government must step in to define their respective rights and powers—but how can it do this without more knowledge of the matter? In addition to all this, it is now found that the harbors, which are all under the special control of the central powers, are being seriously injured by the enormous quantities of filth poured into them. The Government must act, and very promptly too. It is one more reason for a Department of Health, with a subordinate Bureau of Sewage Disposal.

The wastefulness of present methods of sewage disposal is subsidiary to the main fault of injuring our beautiful water supplies and spreading disease. Nevertheless, in time it will become a vital matter to recover the vast quantities of nitrogen now thrown away. If a Sewage Bureau or Commission could solve this problem of the removal of nitrogen salts from sewage it would repay all expenses involved and a thousand times more. We mention this matter of dollars and cents for the benefit of those sordid souls who look upon all such problems from the financial side and who care little for the saving of health and prolongation of life sure to result when we stop our disgusting habit of emptying our closets in our neghbors' yards. But think of the folly of deliberately ruining our crystal lakes and rivers! We have destroyed water supplies worth untold billions and are now spending hundreds, yes thousands, of millions to get fairly decent drinking water to the dense masses of our cities. There is absolutely no reason why any community should be permitted to use any natural water course as a sewer, and the time is near at hand when it must be stopped, as we need the water.

The problems of sewage disposal are thus seen to be so numerous and vital, that they must be attacked in earnest—not only by local communities such as villages, towns and cities, but by the states and the United States. Commissions must be created, experimental stations organized, expert specialists trained and new methods devised as quickly as possible. Through these means it will soon be possible for every community to dispose of its own wastes and pass on to its neighbors nothing but water clean enough to drink. This seems utopian now, and so it is, but it is an utopia which can be reached in time and we must reach it if we are to obey the modern law of cleanliness. So by all means let us have a National Sewage Commission at once. When the Department of Health is organized, the commission will automatically become one of its bureaus and no time will be lost in waiting. We commend the present movement, for we have formerly taken the firm position that the Federal Government must control the matter of sanitary sewage disposal near harbors and interstate waterways, whether navigation is injured or not. It is health we advocate, not commerce, though both are essential.

The growth of specialism is a striking phenomenon of modern medicine—not, but what specialism to some extent has always

existed, and indeed, we know from Herodotus that ancient Egypt was a hotbed of medical specialism; but the specialism of today has arisen as a matter of organic necessity, a direct consequence of the evolution of medical science and impelled by various factors. It is not so very many decades since specialism was discountenanced by men of the best reputation in the medical profession; yet the very distinction between the man who practiced as a surgeon and the one who limited his work to internal medicine was in itself the first step in specialism, a step that arose from the operation of the most potent factor in the evolution of the highly specialized conditions of today. It is one thing to know what ought to be done and to know how it ought to be done—quite another thing to be able to do it. The first two knowledges may be acquired by mental study and personal observation—the last, if it depends at all upon handicraft, can be acquired only by practice. The element of what is known as "knack" comes into play—the education to the stage of automatism of the coordination of complex movements under the direction of an observing and critical facility operating without conscious effort. The introduction of new manipulative methods of investigation and treatment, as for instance, in diseases of the larynx, is a case in point. Then there have come into use many new principles, electricity, the x-rays, radium, suggestion, etc., all of which require a special study in general as a prerequisite to their practical application in disease, and which also call for a special education in technique, to say nothing of the necessity frequently for elaborate apparatus not at the command of the ordinary practitioner.

Other forms of specialism, again, arise from the facilities enjoyed by certain physicians, of studying large numbers of cases of a particular class and collating their own observations and those of others, so as to be able to draw large inferences therefrom with some approach to accuracy. To this class belong the investigations into cardiac diseases, cancer, the specific infectious diseases, brain and mental disorders, etc. From such grouped study arises a much wider knowledge of the inter-relations of these diseases, though, without due care it is perhaps apt to result in a contracted field of vision in regard to the human being as a whole. It is perhaps to this kind of specialism that the complaint of the general practitioner, that the specialist always manages to find his own sphere of activity in every case that comes before him, most frequently applies.

The division of medicine between clinical physicians and laboratory men is another result of the multiplication of methods of research into the world of causes and effects beyond the perception of the unaided senses of sight, smell, hearing, and touch, which are the common property of all physicians alike. The science of bacteriology, the vast development of biologic chemistry, etc., have called into being a new class of physicians. Between them and the clinical physician, the difference is essentially this: that for the latter the human personality is the unit, and the universal laws of the physical sciences are studied as contributory to the maintenance of that unit in a normal condition of its own—the synthetic view; while for the former the human personality is resolved into its component parts, subordinated like the inorganic world to the supreme control of purely physical laws—the analytic view.

Medio tutissimus ibis, here as elsewhere, is a safe guide. Truth, so far as we can know it, lies ever as a mean between extremes. Both views are a part of the truth; neither is the whole truth. One view is the complement of the other, and without the other either is incomplete. There have been indications of a tendency on the part of the laboratory man to step beyond his province, and without any knowledge of the patient's clinical case to pronounce a verdict on the laboratory aspect alone. Such a verdict may easily be fallacious. Mucus from the fauces may disclose to the laboratory man the presence of the Klebs-Löeffler bacillus, or fœcal matter the presence of the typhoid bacillus. Yet apart from the clinical history of the case, it does not follow that the patient is suffering from either disease. It is for the clinical physician, taking the laboratory report as merely one of the data in the case to decide whether the patient is suffering from diphtheria or typhoid, or from some other intercurrent complaint, the bacilli indicating merely that he is a "carrier." Yet, though without the laboratory report the clinical physician might still have arrived at a correct diagnosis of the actual condition from which the patient suffers, it does not follow that the laboratory report is of little value; for in the one case it clinches and renders certain the diagnosis already arrived at on other grounds, or removes any element of doubt; while in the case of a "carrier," it sounds a warning to the clinical physician of a danger both to the particular patient and to the public, that he might otherwise entirely have overlooked—to the patient, because, in a lowered condition of vitality from any cause, the quiescent organisms of a "carrier" may be offered the needed opportunity to become malignant; to the public, because the "carrier" is just as dangerous to the susceptible person as one actually suffering himself from the operations of the germ.

Fevers resembling typhoid are receiving much study, not that they are fatal of themselves, but because they are causing a great deal of suffering and possibly loss of resistance to other infections or even permanent injury to health. The term typhoid formerly included many other infections which are now mostly differentiated by modern means of diagnosis, but there are still many conditions which are mistaken for typhoid and there are possibly unknown infections to clear up. Ziegel (*N. Y. Med. Record,* June 25, 1910) mentions the cases due to intestinal sapremia, coli infections, para-typhoid fever of the two types, and meat poisoning due to Gärtner's enteritis bacillus or para-typhoid B., all of which can be definitely differentiated by careful diagnosis. In addition, there is the group in which positively no organisms have been found and from the similarity of the cases we are justified in naming them Brill's disease from their discoverer, Dr. Nathan E. Brill of N. Y. City. The symptoms are so distinct that there is no excuse for further grouping with the typical typhoids having negative Widal reaction.

Brill's disease is of more than ordinary importance because it raises a suspicion that it is a mild typhus and though Dr. Brill himself (*Amer. Jour. of the Med. Sciences,* April, 1910) does not definitely pronounce them such, it is quite evident that in a typhus epidemic these cases could not be differentiated. The eruption, the abrupt beginning, the duration, the abrupt or rapid ending and short convalescence, all point to

an invading organism which is soon destroyed and does not linger for weeks or months like the typhoid bacillus. The British physicians in India are now distinguishing three separate diseases which are temporarily called three, seven and ten-day fevers respectively, and which are not dengue or influenza, nor due to any of the recognizable causes of fever, but there is a tendency to regard them as due to unknown organisms probably transmitted from lower animals as in the case of the owl-midge fever of central Europe. Perhaps New York and other places in the temperate zone have similar infections and it would not be a bad idea to look further into the question of insect carriers, now that we know typhus itself is carried by lice. The environment of the patients and their social status may shed some light on it.

The diseases of lower animals are thus becoming of more and more importance in human pathology and it is high time that they be given more consideration in the investigations of the fevers of unknown causation. The cancers of fish are being investigated so that our sport will not be restricted, and the infections of hogs are carefully studied to prevent money loss to farmers, so let us now get at those other infections which are occasionally transferred to men. We may find that the cause of a fever is brought to us by an insect from the canary bird kept at the bedside, the poodle which sleeps with us or the cat in our lap. Certainly the mouse or rat or squirrel must give us other diseases now that they have been proved to give us plague. The mouse is under grave suspicion as a transmitter of pneumonia as well as other organisms. It merely acts as a culture medium to keep a bacillus alive until some man comes along to get it. Mousetraps then are sanitary contrivances. Horses and cattle can give us sleeping sickness in the tropics and why not other diseases further north? The lower animals and insects thus present an enormous field for the discovery of possible causes of undetermined fevers. Here is another case where the millionaires may take notice of the good they may do with their surplus wealth.

The study of the short fevers of the tropics seems destined to be of considerable importance to northern physicians. As previously stated, British Army surgeons are classifying the cases into three-day, seven-day and ten-day types, from all of which malaria, typhoid, Malta fever, as well as dengue are definitely excluded. Lt.-Col. J. J. Gerrard in the October *Journal of the Royal Army Medical Corps* shows that three-day fever is found in Malta almost exclusively in the summer as though it were climatic, indeed many cases are so closely connected with a prior sun exposure as to have been labeled "thermic fever." Nevertheless a living cause is not disproved as it is the season when insect transmitters are at work. Seven-day fever is more evenly distributed throughout the year, but as none occurs in the coldest months the same remarks apply to it as to the shorter form. Ten-day fever is evenly distributed throughout the year but as these cases are becoming more and more rare it is evident that they were mostly unrecognized Malta or typhoid fevers or other infections now recognized. Perhaps these simple continued fevers will disappear and the only cases to clear up will be the ephemeral fevers and febriculae. This all shows satisfactory progress, but it would be well for our city

physicians not to consider any summer fevers as climatic or thermic until they have excluded all known causes—particularly infections and auto-intoxications. It is certainly a good sign of increasing ability in diagnosis to note the rapid decline of "simple continued fevers" which formerly figured so largely in our hot weather practice.

The need of good nutrition in the tropics has been accepted as a matter of course by those who have investigated the subject first hand, yet it is amazing that text books still repeat the old baseless dogma that tropical residents should cut down the diet, particularly the proteids. Hans Aron of the Philippine Medical School, by careful painstaking investigation of native diets, shows (*The Philippine Jour. of Science,* June, 1909) that as a matter of fact, the nitrogen and number of calories are practically the same as in cooler climates, when the native is not starved by poverty. To be sure the carbonic oxide output diminishes with the air temperature in experiments upon animals, but when there is sufficient fur protection, a lowering of air temperature does not increase combustion at all. Consequently in man, who varies his protection by clothing, there is not a marked difference in his combustion in the north when he retains body heat or in the tropics where he radiates it. Inside the clothing, there is a tropical temperature after all. As an actual matter of observation Malays and Europeans in the tropics use practically the same amount of oxygen as Europeans in cold weather in Europe. Cutting down the diet therefore means starvation. Aron also shows that the nitrogen intake is practically the same per kilogram of body weight making due allowance for work done. When less is taken it is due to poverty as in the case of the inefficients of New York. To advocate an approximation to tropical diet of the poorer natives is as foolish and dangerous as to advise people to starve themselves like the submerged tenth in our slums. In time, it may be possible to purge dietetics of its nonsense, but from the way present delusions are kept up, it will be a very long time.

Diet in hot weather is another subject on which there are dangerous popular and professional delusions. Without the slightest evidence, the alleged experts are advising people to cut down the diet, irrespective of the amount of work done. This is as foolish as attempting to run the Lusitania on less coal in summer than in winter, except of course the lessened losses from radiation in summer which as we have seen does not apply to man who equalizes his radiation by changes of clothing. The hard worker must take in as much fuel in summer as winter or live on his own tissues. The only man who can afford to cut his diet is he who cuts his work with the hot weather—and that means only those who can afford leisure, not the vast majority whose busy season is in the summer. The building trades and many other outdoor employments shut down in winter and the laborer needs less food, like an idle ship at her dock, yet our experts tell these idlers to eat more simply because it is winter. An engineer would be considered insane if he told the owners that the idle ship in winter must have more coal than the moving one in summer, but the engineers of our physiologic engines are considered wise when they utter such nonsense. The layman is now saying that dietetists must be cranks or they wouldn't

be dietetists. Some of them say eat regularly three times a day, others say eat only when hungry; one says eat no breakfast, another advises that breakfast be the main meal of the day. One thinks we are healthiest on meat, while others find a dietetic millenium in fruits and nuts; and others—but we haven't space to give the thousand other absurdities. What we do know, is that to resist infections man must be well nourished, summer or winter, idle or busy, and the average healthy man can extract nourishment from almost all articles used as foods, if he won't gulp them in a hurry like a dog, or chew them like a cow. Fad and fool are not much different in any matter, so we must not be faddy.

Malta fever has been entirely abolished—but only as "Malta" fever. It has changed its name to "Mediterranean fever." This action was taken in accordance with the old English proverb—"Give a dog a bad name and hang him." The Maltese authorities, it appears, protested against the name "Malta fever" to the British Government, on the ground that, while the fever is not nearly so prevalent in Malta as in other parts of the Mediterranean, it gave a bad name commercially and otherwise to the island and inflicted considerable damage on its prosperity. The British Government therefore put itself into communication with the Paris Academy of Medicine and proposed the substitution of the term Mediterranean fever for Malta fever, on the ground that the latter term was misleading since the fever was not particularly prevalent in Malta, and so an injustice was inflicted on that island. The Academy very politely replied that the term Malta fever had been given to the disease as an honorable recognition of the labors of the British physicians in Malta who had first discovered its nature and causation. They added, moreover, that in the matter of accuracy "Mediterranean" was not a more fit designation than "Malta," for it seemed to imply that the disease was prevalent all over the Mediterranean, which was by no means the case—its own Riviera, for instance. However, the *entente cordiale* prevailed, so that on March 14th, the Paris Academy decided to adopt the term "Mediterranean fever" in place of "Malta fever," with *mélitococcie* as its scientific designation, thus preserving the pretty compliment to the British discoverer of the *micrococcus melitensis,* without obtruding it on the common folk; just as when we want to give a patient mercury and potassium iodide, we write it hydrargyri perchloridum and potassii iodidum.

Preventive and remedial work against mosquitoes is the title of Bulletin No. 88 of the Dept. of Agriculture, prepared by Dr. L. O. Howard, Chief of Bureau of Entomology, who has compiled all the information in this line collected in the last few years. The progress here recorded has been phenomenal and the amount of sickness prevented is simply incalculable. Malaria and yellow fever have wholly disappeared from places formerly uninhabitable, and other mosquito-borne diseases are in process of elimination from the world. Moreover, vast tracts of swamp lands drained for this purpose alone have developed unsuspected value for agriculture and even residence, so that the increase of wealth and population has been enormous. The outlay in drainage works has been returned so many fold, that it is difficult to find words strong enough to condemn those short sighted politicians who are still opposing the movement in certain legislatures

not far away. Early opposition was quite natural, for if anyone fifteen years ago had predicted what is now accomplished he would have been considered worse than a dreamer, but luckily the movement is now irresistible and opposition futile. What an advance in civilization has resulted from the labors of our scientists!

New York City should be free of mosquitoes except those kept as curiosities in museums or for experiment in laboratories. The vast breeding places in the vicinity can all be drained or rendered uninhabitable for the larvae, and it is business folly not to do it at once, now that it is shown to be such a good investment. Some mistakes have been made, of course—it would be amazing if there were not—but experience is attaining perfection. The point to discuss now, is whether New York City is not justified in draining all its own breeding places at once, and then taking legal steps to compel similar action in more distant places whose mosquitoes are occasionally blown here to our great annoyance. It has already been legally decided that the owner of breeding places is maintaining a public nuisance inimical to health of neighbors, and must abate the nuisance or run the risk of losing his property and of indictment too. Sanitation is advancing civilization faster than we thought possible. People must be decent even if they have no desire, so let us be decent by eliminating our own plague spots, and then we can throw stones at our neighbors.

Civilization is only a veneer after all. —From Borneo to Burlington House, London, may be a long distance geographically and socially, but ethically it would appear that they are not so far apart after all. At a meeting of the Royal Archaeological Society, which was held at the last named place on April 5th, a clergyman exhibited an embalmed head which was stated to be the head of Oliver Cromwell. This head, it appeared, had been in the possession of the reverend gentleman's family for three generations and had never previously been made a show of, except in private. It was said that the skull, having been blown off Westminster Hall had been picked up by a soldier on sentry duty and hidden. On his death it passed to the Russell family in Cambridgeshire, until one of them being an actor, and therefore in those days needy, sold it to the proprietor of a museum, and finally it found its way into the possession of the reverend. showman's grandfather. The links of the chain of evidence are said to have been so strong as to lead to a general belief that it was really the head of the Protector, thereby definitely deposing from its high estate the skull at Oxford that at one time occupied that exalted position of irreverence. It is not so many years ago since there was a discussion about the skull of Sir Thomas Browne, which led ultimately to the suggestion that in any event it might be a decent thing to give the skull burial. If these skulls had been retained for purposes of study into some point of utilitarian curiosity, meaning thereby the acquisition of scientific knowledge for the benefit of the human race, there would be lots of people whose hyperaesthetic sensibilities would have risen into shrieking hysterics at the outrage; but as the sole purpose, apparently, of keeping the skulls above ground is to satisfy the vulgar curiosity that has no end or aim beyond the excitement of a temporary wonder, it seems no one's business. If these good archaeologists who own the skulls of the great men they seem to love to keep hidden

away for the purpose of producing wonder when they bring them out for a peep, would only go to Borneo and make friends with the Dyaks, they might have a veritable orgie of head-viewing, as thrilling as the introduction of the head of John the Baptist in "Salome." That, by the way, was prohibited by law.

Irritability of temper is a not infrequent concomitant of arterial degeneration, so much so that among many people the presence of superficial tortuous temporal arteries is regarded as an indication of a "bad tempered man." Syphilis, undoubtedly, is one causative factor in many cases of arterial degeneration, so that a syphilitic condition may often be at the bottom of ungovernable irascibility. Be that as it may, Mr. Edmund Owen, in his Hunterian lecture recently delivered at the Royal College of Surgeons of England calls attention to a point that we believe has passed hitherto unnoticed, viz., the possible or rather highly probable connection between the ungovernable temper of John Hunter and his deliberate self-inoculation with venereal disease in his fortieth year for the purpose of studying its effects. It is true that Hunter was naturally of an overbearing disposition even in early life; but, as Mr. Owen points out, one expects to find that as a man advances in years the little faults of his earlier days disappear, that his character gradually takes on the mellowness of autumn. With Hunter it was not so. There was no mellowing in his later life; the jealousies and the bitterness of his nature steadily became more marked. "And," continues Mr. Owen, "from what one knows of the results of syphilitic degeneration of the blood vessels one would probably be right in ascribing the early coming on in him of old age and the growing irritability of his temper to the effects of that disease with which he so unwisely inoculated himself."

MEN AND AFFAIRS.

A Grave Loss to the Medical Fraternity—the Death of Major James Evelyn Pilcher.—Major James Evelyn Pilcher died at Savannah, Georgia, April 8th, 1911, in St. Joseph's Hospital. The immediate cause of his death was a diabetic carbuncle of the face. For a number of years he had been the subject of the gradual failure of his vision due to retinal hemorrhages consequent upon chronic diabetes, and for the two years previous to his death had been nearly totally blind.

There is a certain pathos about the development and progress of his diabetic affection which will appeal to universal appreciation, although it is but another example of that spirit of devotion to duty at any personal cost, which is characteristic of the medical profession as a whole.

In 1890 as Captain in the Medical Corps of the United States Army he was on duty at Fort Ringgold, Texas, near the Mexican border. During his term of service there an epidemic of Dengue fever of a severe type spread throughout all that region, and he was the only physician within a radius of one hundred miles. The entire responsibility and labor of giving medical advice throughout this whole region, both to the members of his garrison and to civilians, fell upon him. To this work he devoted himself most assiduously. Near the close of the epidemic he himself suffered from the disease, and those who were with him at the time relate with admiration the manner in which, while himself sick, he had himself carried to his carriage and made long journeys to give advice to those who were dependent upon him, and then would return in a state of utter exhaustion to

his own quarters. From the effects of this labor and disease attack he never fully recovered. The effect of the poison fell particularly upon the pancreas and resulted thereafter in a train of digestive disturbances which culminated in the frankly expressed diabetes that ultimately cut short his career.



MAJOR JAMES EVELYN PILCHER.

Major James Evelyn Pilcher was born in Adrian, Mich., Mar. 18th, 1857; youngest son of Elijah Holmes Pilcher, D. D., and Phebe M. (Fiske) Pilcher. He was graduated A. B. from the University of Michigan in 1879, and M. D. from the Long Island College Hospital in 1880. In 1887 he received the degree of Ph. D. from the Illinois Wesleyan University, and L. H. D. from Allegheny College in 1902. He was appointed Assistant Surgeon in the United States Army in 1883, and in 1898 he was made a Brigade Surgeon in the United States Volunteers. During the period of activity connected with the Spanish-American War his duty was in connection with the 7th Army Corps in command of the Army Medical Supply Depot at Savannah, Ga. He threw himself with great ardor into the duties of his position, notwithstanding his

poor health. His labors at this time, however, so exhausted him that at the close of the war he had to admit that it would be impossible for him to again assume the burdens of the active list, and he was retired.

He was married in 1883 to Mina Adela Parker, of Brooklyn, who survives him.

During the period of his active army life he saw duty both on the extreme Northern frontier and upon the Mexican border, and in the East he was in charge of the Post at Governor's Island, Ft. Niagara, Columbus Barracks, and was on duty at the Post near Omaha, at the time that he was ordered to join the forces that were assembled in Florida at the time of the opening of the Spanish-American War.

Major Pilcher had in a high degree an unusual combination of abilities; he had fine executive talents added to great industry and an active interest in many fields of activity. In the earlier years of his military service he was the author of the first system of drill for the United States Army Hospital Corps published in the United States, and which was crowned as highly meritorious by the War Department. During this period, also, he compiled his work on "First Aid in Illness and Injury," the first edition of which, published by the Scribners, was issued in 1892, and which has since gone through many editions, and has maintained its position as the principal text-book for the instruction of the Hospital Corps up to the present time.

To relieve the monotony of the winter's duties at Ft. Custer, he devoted himself to the translation into English of the famous book of Mundinus, *"de Anathomia Humani Corporis Interioribus Membris"* which remains in manuscript as a monument to his patience and classical knowledge.

During the term of his service at the Army Post of Columbus, Ohio, he filled the chairs of Military Surgery in three of the medical schools of that city, and after his retirement filled the chairs of Sociology and Political Economy in Dickinson College, and that of Professor of Medical Jurisprudence in the Dickinson School of Law at Carlisle, Pa., where he made his home during the later years of his life.

He perhaps became most widely known through his activity in the work of the Association of Military Surgeons of the United States, of which he became the secretary in 1897, remaining in that position until his increasing blindness necessitated retirement therefrom two years before his death. He established and conducted for many years the *Journal of the Association of Military Surgeons,* to which afterwards was given the shorter title of *Military Surgery,* and was active in forwarding every interest connected with that association.

He had a special penchant for books and printing, and it was due to his abilities in that line that, before his entry into the Army, and while still a medical student, was inspired with the establishment of the *Annals of Anatomy and Surgery,* with the publishing interests of which he was charged. From this periodical sprang a little later the *Annals of Surgery.*

He contributed many articles both to the medical and general press. By his versatility and breadth of mental horizon he took an interest in many things and enjoyed the friendship of many men. Upon the recent reorganization of the National Volunteer Emergency Relief Corps he was made Director General of the Corps, but his failing health prevented him from giving to the work the measure of attention which he had hoped to be able to give. His

career contained much to admire; he conquered for himself a permanent place in the regard of his fellows and in the records of his profession.

The results of osmotic pressure in mineral solutions have of late attracted considerable attention. In many cases these so-called osmotic growths bear a striking resemblance externally to the results of the processes of life. Among others, Professor Leduc, of Nantes, has devoted much study to the matter, and his work on the "Mechanism of Life" is likely, we understand, soon to appear in English dress. As Dr. J. Bell Pettigrew says in his recent work on "Design in Nature," "the great rhythms of the physical universe are transferred in a multitude of ways to the vegetable and animal kingdoms, a circumstance of the deepest import, as showing that the inorganic kingdom, is, in a sense, the parent of the organic kingdom, and that the two kingdoms are in complete accord and complemental even in matters of detail." It is thus possible that a more exhaustive study of the osmotic process may bring us a step nearer to a comprehension of the mysterious problem of life—not, indeed, to what life is, but to the machinery by means of which it produces its results. The most complete knowledge, both structural and functional, of all living bodies would no more explain what life is, than a thorough acquaintance with the structure and functions of electrical apparatus would disclose to us what electricity is. How electricity effects its results, to what laws its activity is subject, are matters within the possible compass of successful investigation; why it should produce any effects at all, or why those effects should be subject to laws of any kind, is apparently as unfathomable as the what and why of life itself. The how, it would seem, is all that we are likely to be able to compass in either; and in this the study of osmotic growths may afford material assistance.

At a recent meeting of the Roentgen Society, the President, Dr. W. Deane Butcher, gave an address and a demonstration of this phenomenon—the curious mineral growth that is formed by the pushing or thrusting of the molecules of a mineral solute. He displayed in glass vessels the weird looking forms, some of which were startlingly similar in appearance to mushrooms, sea urchins, corals, and other living products, introducing them, not as mere curiosities, but rather as indicating in the rough a part of the mechanism of life. Half a century ago, he said, Huxley wrote his famous treatise on a piece of chalk, an inert lump of matter which was in reality the graveyard of a host of diatoms and other micro-organisms that had once enjoyed a veritable riot of life. Modern science went further and prophesied that the chalk might yet live again in the future, and that the awakening of its molecules could take place by means of a purely physical and chemical stimulus, without the intervention of any "germ" or "seed," or even of the modern wonder worker, radioactivity. By taking a piece of calcium chloride, fresh from the furnace, and therefore free from any trace of life or germ, or even of organic matter, and placing it in an inorganic solution that had been sterilized by boiling, the stone would grow, putting forth in a few moments plumule and stem, leaves and branches. Dr. Butcher illustrated the process in fact by projecting on the screen the visible growth of a tiny tree from a "seed" of calcium chloride dropped into a solution of sodium

silicate. The water tore apart the exposed calcium chloride molecules, setting free their ions to roam at will through the liquid. These ions were speedily seized on by the silicate ions, forming an insoluble precipitate, which immediately enveloped the calcium chloride "seed" in a semi-permeable membrane. Osmotic pressure or diffusion did the rest. The force was the same as that which drove the tiny plumule of wheat through the clods and lifted the sap to the topmost twig of the tree.

But not only the forms, but even the varieties of color and the texture of life as well as the microscopical structure of its envelope, can be closely imitated by the action of liquid diffusion. One beautiful experiment was the introduction into a thin layer of liquid on a flat glass plate of a few drops of various chemical solutions, such as are present in the juices of many plants and animals. Each drop spread by diffusion, forming colored bands where two solutions met, and thus producing a variety of exquisite colors and intricate patterns. It was difficult, Dr. Butcher said, to avoid the conclusion that herein was displayed the *modus operandi* that Nature herself employs in her workshop. The germ merely plays the part of prince to the sleeping beauty, awakening the forces of vitality already existent in the dust, though frozen into a dreamless trance. It is curious and interesting in this connection to note how widespread in all ages is the belief that man was created from dust, earth, or stones. The lecturer was careful to guard against the misconception that these osmotic outgrowths are actually living beings. His object was merely to demonstrate that osmotic pressure is part of the machinery used by nature in the process of growth. The subject is one of extraordinary interest, and its study offers us another thread wherewith to penetrate the labyrinthine maze of the nature of life.

A remarkable departure in prison discipline has recently taken place in England. By the authority of the Home Office, an International Correspondence School has installed its teaching among the inmates of prisons, and a first fruit of its working has been made public. A young man who had served two years in jail for a first offence, during the last twelve months fitted himself by working twelve or fifteen hours a week after his prison work was done, for a much higher post as a mechanic than he had before been competent to fill or indeed had had any ambition for, until the advantages of this system were brought to his notice in prison. Arrangements were further made for his immediate employment on his release from prison, and instead of being thrown back on the mercilessness that a hard world shows to the man who has "done time," he stepped at once into a sphere far removed from those pernicious influences that often dog the victim and drive him to a life of habitual crime. Here is a reforming influence indeed of the highest value, and one which no mere training to further expertness at a trade in a prison workshop could convey; for the Correspondence School is in a far better position, being an independent body altogether outside the prison organization to secure the confidence and aid of employers towards giving its pupil a fair chance for a fresh start. From a youth of no ambition, content with, and expecting to remain always in the subordinate subdivision of labor to which he had fitted himself, there was developed an aspiring useful citizen.

ORIGINAL ARTICLES.

THE SELECTION OF PATIENTS FOR A TUBERCULOSIS SANATORIUM.[1]

With Special Reference to the Otisville Sanatorium.

BY

CHARLES B. SLADE, M. D.,

New York City.

The factors to be considered in the selection of patients for a sanatorium, such as the Otisville Sanatorium, may be arranged under three main headings or sections, as follows:

(a) The community or city's point of view.

(b) Those factors relating to the welfare of the sanatorium itself.

(c) Those factors relating to the individual patient who is an applicant for admission.

Section A.—*The Community, or City's, Point of View.*—The Community point of view must temper the general rules we apply in the choice of patients for a sanatorium. Since the institution is provided at the expense of the community, it is obvious that its patients should be chosen along lines calculated to return the greatest possible good to the community.

A Sanatorium is an element in the accomplishment of segregation of the tuberculous, but its primary object, at the present time, is not this. There are other institutions (Hospitals) provided, with segregation as their primary object. I will have more to say regarding sanatoria as a factor in segregation, before concluding my remarks. One of the primary objects of a sanatorium is to accomplish cure or arrest of the disease, in all those where this is possible. The permanency of a cure or arrest depends somewhat upon how well the educational influence of the institution is applied by the patient after he leaves the sanatorium. In most of those cases where the disease is not very far advanced, and yet a cure or arrest is not possible, we can bring about improvement, or restoration of the general health, as well as teach them how to preserve their general health as long as possible and to protect those about them from infection after they leave the sanatorium.

One of the most important functions of a sanatorium is the education of its patients upon self-care, and the prevention or control of tuberculosis. It should disseminate knowledge upon these subjects among the people. Therefore, it is most important that the patients selected be of the highest possible standard of intelligence and personal desirability, commensurate with fairness to the city's poor.

The Municipal Sanatorium at Otisville, N. Y., of the Department of Health of New York City, is a charity. It is provided for residents of New York City only, who are suffering with Pulmonary Tuberculosis, and are suitable cases for a sanatorium, but can not afford to pay the charges of a pay institution.

Section B.—*Those Factors Relating to the Welfare of the Sanatorium Itself.*—A sanatorium should not be compared with a hospital. Successful administration of the two institutions rests upon entirely different conditions and rules of conduct. In no other feature is this difference so marked as in the class of patients which should be admitted. The general conditions existing in a community sanatorium are nearly similar to those found in a small

[1]Read before New York County Medical Society, January 23rd, 1911.

colony. The patients in a sanatorium do not feel sick, they are up moving about and there is ample opportunity for them to become involved in any of the disputes and disturbances to which members of a small colony are liable. In a hospital the "tough," or objectionable character, is sick, he is constantly being waited upon, everything is done for him and he is not expected to perform any service himself. In a sanatorium the same man is not so sick, he is not waited upon in small things, but, on the contrary, he is required to perform definite work. To him the situation appears completely reversed; his disease becomes insignificant in his estimation, he loses sight of all benefits he receives from the sanatorium and enormously overestimates the services he renders to the institution. In his eyes he is the giver (always unwilling). Therefore, he feels justified in attempting to dictate, and gives full sway to all his vicious tendencies. He thus becomes a bad influence which works incalculable harm to the general discipline.

Just as one misshapen stone will destroy the form and strength of an arch, so may one vicious patient in the sanatorium upset the general conduct and impair the usefulness of the institution.

It is my opinion that the best welfare of a community sanatorium demands some attention to the relative percentage of the different races which compose the patient body. The physical conduct of the Otisville Sanatorium depends upon a considerable volume of actual work by its patients. It is therefore necessary, while selecting patients for this institution, to maintain a fair average of bodily strength in those admitted. We have found that nearly all patients who are otherwise suitable, are bodily able to do some work, and that they are distinctly benefitted by regular and carefully apportioned employment while in the sanatorium.

The infirmary space in a sanatorium is usually limited, as it is intended only for the small percentage of its patients who happen to be taken ill temporarily while in the sanatorium. Therefore, patients who should be confined to bed from the very day of admission can not be accepted.

Section C.—*Those Factors Relating to the Individual Patient, Who is an Applicant for Admission.*—Under this heading I refer almost exclusively to the factors involved and methods employed in the selection of patients for the Otisville Sanatorium.

Regarding the Disease Itself.—Primarily we try to admit only those applicants who have pulmonary tuberculosis. Every tuberculosis sanatorium in the world probably contains at least a small percentage of patients who are not affected with tuberculosis. This is unavoidable, since the selection of patients often involves the early diagnosis of tuberculosis, which is so frequently a matter of individual judgment. The demonstration of the tubercle bacillus is not always necessary to make a positive diagnosis of Pulmonary Tuberculosis, but the diagnosis remains uncertain in many cases so long as the bacillus can not be demonstrated in the sputum.

In the Otisville Sanatorium we have between forty and fifty per cent. of sputum negative cases at all times. The majority of these cases present such definite symptoms and signs that a positive diagnosis can be established beyond a reasonable doubt. On the other hand, in from ten to twenty per cent. of these sputum negative cases the diagnosis has remained a question of individual judgment, even after

prolonged observation in the sanatorium. I will omit entirely the discussion of the various specific reactions, as well as the numerous signs and symptoms, cited and advocated for the early diagnosis of pulmonary tuberculosis, because I do not think they should be given space in a paper on this subject ("The Selection of Patients for a Sanatorium").

In selecting patients for the Otisville Sanatorium we do not draw any sharp line as to the extent or character of pulmonary lesion. The impression given by physical examination will vary, in some cases, from day to day, even in the hands of the same examiner. I have admitted a patient in whom I elicited distinct signs of cavity while examining him for admission, and failed to find any signs of cavity when making rounds at the Sanatorium a week or so later. I have also met with the reverse of this occurrence as well as numerous cases in which râles appeared and disappeared over extensive areas in the course of a week, or even a few days. The mechanism of these changes in physical signs is well understood, and every one who has examined many cases of pulmonary tuberculosis has observed such changes in the signs. These experiences prove how unreliable it would be to rest the acceptability of cases upon the extent and character of lesion. We do not, however, admit those cases with widespread and advanced lesions, unless the patient's general condition is remarkably good, as is sometimes seen with old fibroid involvement.

Special Conditions.—We do not like to lay down any fixed rules or conditions for the choice of cases, but generally speaking, applicants with any of the following are likely to be rejected:

Temperature up to 100 F., or more every afternoon, unless all other features of the case are favorable.

Attacks of high temperature (103 F., or more), severe night sweats or any signs of severe mixed infection.

Habitually rapid pulse (110 or more when at rest).

Recent, repeated and profuse hemorrhages.

Marked bodily weakness and emaciation.

Marked dyspnoea on slight exertion.

Tuberculous laryngitis—severe.

Severe tuberculous disease of bones, glands, testicles, intestines, peritoneum or joints.

Pleurisy with a large amount of effusion.

Over 50 years of age, where the arteries show marked fibroid changes, and in whom pulmonary tuberculosis is not the chief cause of illness.

Any of the following diseases in severe form: nephritis, cardiac disease, nervous disease, diabetes or any other disease which materially impairs the general health. Any contagious or communicable disease (not tuberculosis).

Any form of insanity.

Chronic alcoholism.

Repeated attacks of acute alcoholism.

Drug habit.

Marked neurasthenia.

A criminal record.

Bad moral character.

A markedly undesirable disposition.

Patients whose teeth are in extremely bad condition should have them attended to before they are admitted. Since the general body nourishment, which depends upon proper mastication, is so essential in the treatment of tuberculosis, it is not necessary to dwell upon the importance of good teeth in this condition. Yet, I am sorry to say, the teeth are not given sufficient attention, by many physicians, in this connection. We prefer those patients who have not had any recent previous sanatorium treatment. It is not well to encourage the sanatorium habit. The larger the number of new patients treated in the sanatorium, the wider will be the educational influence of the institution. Furthermore, we feel that if other sanatoria have not accomplished good results in a reasonable time (6 months or more) it is not likely that the Otisville Sanatorium will do so.

For these reasons we do not like to readmit our former patients. We must also remember that such a custom would not be fair to other suitable applicants who have not had an opportunity. The well-known tendency of a large percentage of healed or partially healed tuberculosis lesions to become more or less active, after patients leave the sanatorium and return to unfavorable conditions, has led some to advocate repeated readmission of former patients. There is undoubtedly some good reason for this attitude, so long as special attention be given to the merits of each case. However, in a community sanatorium, we have found it inadvisable to encourage generally the readmission of former patients, for the reasons previously stated. Some claim that all patients should be taught to look upon the sanatorium as a haven, to which they are invited to return whenever, and as often as, they feel the need of recuperation. Such an attitude, in a community sanatorium, would soon confine the institution's field of usefulness to a very small part of the community. It would tend, inevitably, to shorten the average duration of the periods of usefulness in the lives of those people whose life cycles contain periodic recurrence of sanatorium existence. Furthermore, there are some who can be cured if they remain in the sanatorium continuously for four to eight months, or longer, as their case requires. Some of these, often the most useful lives, find it difficult to remain so long away from their usual work and responsibilities. If this class of patients knew that they could return to the sanatorium whenever they chose, many of them would leave before it was advisable. For this reason also, it is inadvisable to encourage readmissions.

Above all we want patients who are generally *"worth saving,"* and are ambitious to help save themselves. We want people who will abide by the rules of the sanatorium and discharge their duties cheerfully without complaining. There is no place in a sanatorium for a morose individual or a so-called "chronic kicker."

It would assist materially if physicians kept these essentials in mind, when choosing those whom they recommend for admission.

The patient's physician should furnish any information he has regarding the applicant, which would help the examiner come to the fairest possible decision. We wish to consider every case upon its humane, as well as upon its medical merits, for, as we all know, tuberculosis is largely a social problem.

The Process of Selection for the Otisville Sanatorium.—It is well known that the saving of time is of the utmost importance in this work.

The Actual Selection of Patients.—Nearly two years ago I devised this card to avoid delay in decision upon the applicants for admission. Cards, such as this, are distributed to all dispensaries where pulmonary tuberculosis is treated. They may also be used by private physicians when recommending a case. Before these cards were used one to three weeks were frequently lost in obtaining the information which the card now supplies. To explain the method followed, let us suppose that an attending physician to a clinic, or a private physician as the case may be, decides that a patient is suitable for the sanatorium. He explains the sit-

uation to the patient. If the patient wants to go to the sanatorium the doctor fills out one of the above cards and sends him to be examined. The patient comes and presents this card to the nurse in the clinic at the hour stated. This nurse fills in more of the applicant's history upon the reverse side of the card, and asks some additional questions for clinic record He is then weighed, his temperature, pulse and respirations taken and recorded on the reverse side of this card. He enters a

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DEPARTMENT OF HEALTH, THE CITY OF NEW YORK

REFERENCE CARD FOR OTISVILLE SANATORIUM

NOTE:—The Otisville Sanatorium of the Department of Health is for uncomplicated, first stage cases of pulmonary tuberculosis. Patients must be in favorable physical condition, of good character and disposition, and residents of New York City for at least one year. See "outfit" card for clothing, etc., patients should take with them.

(Fill in and sign as indicated)

THIS CARD IS TO BE PRESENTED AT THE DEPARTMENT OF HEALTH TUBERCULOSIS CLINIC

ON (MONDAY) (WEDNESDAY)..... at 3.30 P. M.

Patient's Name..... Address.....

(LATEST RECORDS—At least two temperature records must be given)

DATE	TEMPERATURE		PULSE	RESP.	TUBERCULIN TEST	SPUTUM	URINE	
	A. M.	P.M					ALBUMIN	SUGAR

Clinical diagnosis and extent of lesion.....

How long under observation..... Date and hour of first application.....

Present complications (if any).....

Remarks bearing on suitability of patient.....

.....Sent from .....(Hospital) (Dispensary)

Signed.....

Date.....191 (Attending) (Resident) Physician

Reference card for Otisville Sanatorium.

dressing room and prepares for examination.*

Then the applicant, stripped to the waist, comes into the examining room. The examiner reads carefully all the above data, and asks the patient more questions, which his individual case may suggest.

Now comes the physical examination proper; although inspection has been in active progress from the time the patient entered the examining room. My examination here has no more reference to the lungs than it has to the circulatory, digestive and nervous systems or any other body structures. The physical examination consists in the systematic application of inspection, palpation, percussion and auscultation.

By such an impartial and systematic examination we have often found that the patient's symptoms were due to disease not in the lungs. Disease of the heart valves or muscle, with no signs or symptoms which this would not explain, has been a fairly common exposure in the cases I have examined. Such cases are rejected, of course. Gastric ulcer was the cause of the dominant symptoms in one case. Aneurism of the aorta in two cases, and uncomplicated alcoholic neuritis in a recent case. Whooping cough in another. In many applicants referred to me I have found bilateral chronic bronchitis with emphysema, nephritis and other disease conditions sufficient to account for all symp-

*I omit any preliminary examinations and records recorded by the Tuberculosis Hospital Admission Bureau for purposes of reference.

toms complained of, and no evidences of pulmonary tuberculosis. It is true that some of these cases presented symptoms which do arise in some cases of pulmonary tuberculosis. In one instance a long uvula proved to be the sole cause of cough, which led to a diagnosis of pulmonary tuberculosis. When the uvula was cut down to a normal length the cough disappeared, leaving no basis for the diagnosis. I cite these experiences to show how essential it is to maintain a perfectly impartial attitude in this examination.

My physical examination not infrequently fails to reveal any evidence of definite disease. In these cases the entire history is considered with special care, and if there is not sufficient evidence to make a positive diagnosis of pulmonary tuberculosis likely, in my judgment, I reject the applicant.

Some applicants are rejected because their lung disease is too advanced, too widespread, or too acute and active at the time. We have had patients come for examination in such an advanced and weakened condition that they had to be taken from the clinic in an ambulance. Some of the cases, too acute and active to be admitted, do, by proper care in a hospital or at home, recover sufficiently to be suitable sanatorium cases later on.

The rejection of advanced and hopeless cases is often most painful and difficult. It is inevitable that these cases present the strongest appeal to sympathy. I usually explain the situation to these patients with as much gentleness and encouragement as is possible. In many instances we offer to send them to Riverside Hospital, which is intended for the more advanced cases, but most of them do not care to enter a hospital in the city.

A patient, otherwise acceptable, who has extremely bad teeth or no molars at all is advised to have them attended to and then come back for final acceptance. Here is an opening for worthy charity, as some applicants can not afford to have their teeth properly repaired.

In some cases a doubt arises as to the moral desirability, or other social conditions of the patient. Here decision is withheld, until an investigation is made by an agent of the Department of Health, usually a nurse. Most of our applicants are investigated from this point of view as a matter of routine. It is my custom to explain the cause of rejection to those applicants who ask it.

In about 20 months I examined 1716 applicants for admission to the Otisville Sanatorium. Of this number 488 were rejected for various causes. In four consecutive weeks, last year, I rejected 28 out of 109 applicants. Of the 28 rejected, 13 were rejected because I did not find in them sufficient evidence to satisfy me that they had tuberculosis. This I admit was a trifle higher than the average.

Eight or ten rejections a month for this cause would, I believe, be a fair estimate.

Those applicants who are accepted are now instructed regarding the clothing and toilet articles which they are required to take to the sanatorium with them. In some very needy cases provision is made by which these articles are supplied for them, but this abject dependence upon charity is not encouraged. The names of those accepted are placed upon a list in the order of their application, and all are admitted in this order. We have three lists of accepted cases, one for women, one for children and another for men, all operating independently of each other.

We are at present examining all applicants for admission to the Otisville Sanatorium at 426 1st Avenue (near 25th St.). This is the headquarters of "The Tuberculosis Hospital Admission Bureau," which was recently established to facilitate the admissions to all tuberculosis hospitals and sanatoria which are under or partially under municipal control. This bureau is also a bureau of information having complete records of all hospital and sanatorium cases. It is believed that this bureau will help materially the better control of a large percentage of our tuberculosis residents. Physicians and nurses are in attendance between the hours of 9 and 5, during which time applicants for admission to the various institutions are received. The days and hours at which examinations are made for special sanatoria can be learned by applying to the bureau.

Doubtful and Advanced Cases.— In examining patients who have been recommended for the Sanatorium, the two features which have impressed me as deserving our greatest consideration are:

First.—The very great number on whom a positive diagnosis of Pulmonary Tuberculosis had been pronounced without, so far as I could detect, sufficient evidence to justify it.

Secondly.—The relatively great number of sputum positive cases too far advanced to be admitted under our present sanatorium arrangements, and who are an active menace to the community.

Doubtful Cases.—In the former, the doubtful cases, most were rejected; but in a few the conditions surrounding the case were such that I deemed it advisable to admit them, although I did not feel sure of the diagnosis. I might add that most of those who were rejected because I could not agree with the diagnosis, were advised to remain under the observation of their physician or clinic, and that if they should develop cough, loss of weight, pain, elevation of temperature, or lost ground in any way to return for reconsideration; but none have ever returned.

I have had our resident physician in charge at Otisville, Dr. McSweeny, collect from our records in the sanatorium, the following data, which reveal a state of affairs that I believe is of too great a significance to be ignored, a state of affairs which I have found startlingly general in clinics as well as in private work.

In the three months ending Dec. 1st, 1910, our total admissions were 200. Of this number the sputum has been constantly negative in 91. Of these 91 negative cases the lesion was described or located, by the physician recommending the case, in only 28. In 17 of these 28 negative cases the site and character of the lesion as recorded by the recommending physician is entirely different from our findings in the sanatorium. In more than 60 per cent. some one was wrong. Sixty per cent. of error in sputum negative cases even after we eliminate the very considerable number of patients who, although diagnosed as positive and recommended for admission, have been rejected because I did not believe they had tuberculosis.

In some of these cases we could find nothing in the region said to be involved by the physician recommending the case, but thought we could find signs of a lesion in the opposite lung. In others we thought the lesion was in an entirely different part of the same lung and not at all where the recommendation card recorded it. In still other cases we were not able to elicit definite signs of disease in any part.

It is possible that the difference in the site of lesion recorded in some cases may be due to a clerical error in noting the findings on the record cards; but I do not think it possible that this accounts for any great percentage of these discrepancies.

The well-known fact that physical signs may change in character, that râles may appear and disappear, from day to day, over tuberculous lesions might account for a very small percentage of the disagreements, but there are entirely too many to be *all* accounted for in such ways.

We must not lose sight of the fact that all, or nearly all, of the findings noted on the original recommendation cards, as well as those in the sanatorium records were the result of examinations by men who more or less specialize in tuberculosis work. It is therefore very difficult if not impossible to say who was right in those cases where the findings differ so widely. It is furthermore not unreasonable to assume that both were wrong in a certain percentage of these cases and that some of our patients in the sanatorium have not pulmonary tuberculosis at all, nor any other form of tuberculosis. *Note.* I do not consider the possible presence of very old and firmly encapsulated lesions in mediastinal or retro-peritoneal lymph glands, which give no symptoms or signs. I do not believe for one moment that the condition which obtains in the Otisville Sanatorium is unique in this regard. Especially am I unwilling to believe this, since a very considerable percentage of the applicants I have rejected for Otisville, were refused admission because I could not obtain sufficient evidence (in symptoms or signs) of the presence of tuberculosis. Furthermore, we carry in Otisville, a much larger percentage of fairly advanced cases and smaller percentage of incipient than most other sanatoria. So that one would naturally expect the state of affairs to which I have called attention to be less common in the Otisville Sanatorium than in most other sanatoria.

I believe that in order to accomplish the greatest good, with the present state of our knowledge, we can not avoid having, at all times, at least a small percentage of patients in sanatoria who have not got tuberculosis, but I do think that we should enjoin more care than is now generally exercised in fixing a positive diagnosis and recommending sanatoria in legitimately doubtful cases.

All physicians who examine patients for the presence or absence of pulmonary tuberculosis should keep in mind that a positive diagnosis once pronounced, whether it be right or wrong, is more difficult to disprove than is the case in any other disease. Difficult cases may, and often do, subsequently develop manifestations which prove conclusively a positive diagnosis, but there is no possible development, during life, which can prove conclusively the absence of tuberculosis. We may disagree with the positive diagnosis of pulmonary tuberculosis, but we *can not disprove* it, except by a very unusually thorough autopsy.

To those of us who know the importance of the earliest possible diagnosis of tuberculosis, it is encouraging to see the public so aroused that they come to us and our clinics for examination and diagnosis at the first sign or symptom which they think might be due to tuberculosis. At the same time this alertness which we have aroused in the mind of the laity puts upon us a proportionately heavy responsibility, and demand for caution before pronouncing a

positive diagnosis. They should not find in the medical profession a violation of the confidence they place in us. The cases I have rejected for lack of evidence of the existence of tuberculosis (a considerable number) were naturally all sputum negative, so there could not have arisen the necessity for haste, for the good of the community. If we do not wish to bring upon us, ultimately, a well deserved censure, we must consider a negative diagnosis to be as important as a positive one. It is true that cases with a positive primary diagnosis usually pass through examinations by several physicians before they reach the sanatorium; in the course of which a positive diagnosis, pronounced on insufficient evidence, may be disagreed with; but since it can not be disproven, an unwarranted positive diagnosis once pronounced is often a lasting injustice to the individual patient. Tuberculosis destroys the usefulness of so many lives, it is a great pity that we physicians, by our own eagerness, should, directly or indirectly, help create a phantom of the disease to augment this number.

I feel we should frankly admit our limitations; for such an attitude is far more likely to spur us on to improve our abilities in the line of early diagnosis than is complacency or over-claim. If a positive diagnosis pronounced in doubtful cases were an extreme rarity, I would admit that the ultimate good of the many justified the percentage of error, but it is not rare; although I have probably not examined more than five or six thousand patients who had a positive diagnosis of pulmonary tuberculosis pronounced on them before they came to me, in this relatively small number I have found hundreds in whom a most careful examination and consideration failed to elicit sufficient evidence to render a positive diagnosis justifiable in my mind.

It is an unfortunate fact that the primary diagnosis clings to most of these people indefinitely, whether it be right or wrong, with all the limitations of usefulness and happiness that are associated with it; and every indisposition or illness they have subsequently, no matter what the cause, is very naturally accepted as an additional evidence of the correctness of the original diagnosis of tuberculosis.

I do not think we can emphasize too strongly the necessity of extreme care and deliberation before pronouncing a diagnosis. Neither do I believe that an admission of our limitations in very early diagnosis of Pulmonary Tuberculosis, as well as admitting an unavoidable small percentage of errors in sputum negative cases, should dampen our ardor in sanatorium work; on the contrary it should, indirectly, awaken us to the advisability of greatly enhancing the already proven value of sanatoria by increasing their value as an element in the segregation of positive and active distributors of infection.

Advanced Cases.—*The Sanatoria as a Factor in the Segregation of Dangerous Cases.*—It is my opinion that the wisdom of admitting to the sanatoria only early cases is open to question.

I believe that the usefulness of community sanatoria will be enhanced by enlarging their infirmary capacity, so as to care for more advanced cases; for this would make them a more important factor in the segregation of actively infectious consumptives. It has been our experience that a large percentage of advanced cases are markedly improved by sanatorium treatment and that none are injured by it.

As I will hereinafter show, their infirmary capacity can be materially enlarged without impairing the present value of sanatoria as institutions for the arrest and cure of the early cases. Neither would it interfere with the institution's usefulness as an educational influence.

I will point out briefly where, in this way we can control a class of infection distributors, which is now uncontrolled.

In city clinics, as well as while examining applicants for admission to the Otisville Sanatorium, I have seen hundreds of patients, who were anxious to go to a sanatorium, but whose disease was too advanced, according to our present sanatorium arrangements. At the same time they refuse absolutely to go to a hospital. These cases almost invariably have tubercle bacilli in abundance in their sputum and are therefore active distributors of infection. They travel in street cars and move about among city crowds generally, distributing the disease by droplet infection, which is the most effective way to spread tuberculosis. They shudder and shrink from the mention of the word "hospital," and they are not sufficiently careless in their mode of life to warrant forcing them into a hospital. They are often worthy people. Many of this type are in the care of private physicians, who assume responsibility for the application of proper precautions against spread of the infection; but who can prevent spread by droplet infection, when these poor afflicted individuals ride (and cough or sneeze) in a crowded street car or subway train? Of course no one can, and this is, at the present time, probably the most dangerous type of case from the standpoint of spread of the disease. They spend their time going to and from parks, roofs or clinics and their homes, unwilling to go into a hospital "to die." They long for the country and the sanatorium, of which their friends talk so hopefully.

Even if such advanced cases did go to a hospital, in or near the city, many of them would pay frequent visits to the thickly populated centers, and to their homes, spreading the infection each time.

Such frequent visits are not so easily made from a sanatorium, fifty to seventy-five miles, or more, away. Furthermore they are in the country in the sanatorium—and are hopeful, more contented.

Friends and relatives would visit these patients less frequently in the sanatoria than in a hospital, which would be desirable.

To avoid interference with the present objects of sanatoria, I would suggest that the chief infirmary unit be separate from the shacks and other parts of the sanatorium, on a lower elevation and almost, or entirely, out of sight of the other buildings. I believe it would be best to have it a separate unit unto itself.

Patients, when examined for admission, would simply be "accepted" or "rejected" as they are now. No attempt would be made to separate the infirmary cases until they arrive at the sanatorium, just as is now the case. As soon as the patients arrive at the sanatorium, and before they have seen the different units of the institution, they would be examined and assigned to shacks, or infirmary, as their cases indicate.

As patients in the infirmary improved they would be transferred up the hill, to the shacks, so that the movement would be always in the hopeful direction. The small infirmary space now provided would naturally be retained in its present position

and capacity, so that patients who had to go to bed temporarily would not have to leave the shack unit.

The buildings of the infirmary would be of modified open construction, so as to provide all the advantages of sanatorium conditions.

It would of course be necessary to have a small cemetery near, but out of the sight of the sanatorium. There would be more deaths in the infirmary unit than now occur in the sanatorium, some of whom would have to be buried at the expense of the city or community, as is now the case. There would also have to be a small morgue on the sanatorium grounds.

There would, of course, still be some cases too advanced to send away or even too feeble to stand the journey. These would either go to a hospital, or would be so sick that they would be confined to bed at home. Under either condition spread of infection would be reduced to a minimum.

An additional point in favor of enlarging the infirmary capacity is that it would obviate the necessity of occasionally transferring unfavorable cases back to the city.

The expense of enlarging the infirmary capacity and maintaining it would almost certainly be less than a similar increase in the capacity of a city hospital.

There is no reason to anticipate trouble with the railroads, in the transportation of patients, since from large cities, where large numbers went to and from the sanatorium, the company would very likely supply a special car for patients only.

At the present time only about half of the patients in sanatoria are known agents for spread of tuberculosis, since tubercle bacilli can be demonstrated in only fifty to sixty per cent. of the patients. By enlarging the infirmary capacity the sanatoria could receive and care for a much larger percentage of sputum positive cases, the most dangerous kind to the community at large. In fact the sputum negative case is only a problematical danger.

I am well aware that in some states, notably, Maryland and Pennsylvania, large tuberculosis hospitals, for advanced cases, are situated on the same grounds, or very near the sanatoria. These, however, are called *"hospitals"* and are constructed and known as such, carrying with them the suggestion of inevitable death for all who enter; thus in a measure defeating their very object, as I have pointed out.

What I wish to emphasize here is that by considerably enlarging their infirmary capacity the community sanatoria would add materially to their value, as a factor for segregation of a type of the highly infectious consumptive, who is now an uncontrolled menace to the community. This would also make it possible to have an autopsy service in the sanatorium, which would be an incalculable help in the better understanding of the actual lung condition in a very large percentage of our patients, now only a matter of speculation.

245 W. 74th Street.

SURGICAL HINTS.

Removal of a testicle for tuberculosis is so commonly followed by development of the disease in the other that it should be undertaken only in case the organ is completely disorganized.—*Inter. Jour. of Surgery.*

In sprains of the shoulder passive movements are to be resorted to as soon as the swelling and bruising of the parts begins to subside. To postpone these manipulations for more than a few days is to encourage the formation of adhesions, with resulting stiffness.—*Inter. Jour. of Surgery.*

MEDICINE AND CHARACTER.[1]

BY
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Philadelphia.

With the general advance in scientific work and the rapid elimination of that once highly revered type "The Family Doctor," we are confronted with many conditions that cause us to inquire whether the general character of the man engaged in medical pursuits has undergone any change. Personally I believe it has, but for the better. There seems to be no doubt in my mind that medical study and practice of today affect the character of the man so engaged, as no other line of work could ever be hoped to do.

I cannot but contrast the various types of human nature in the presentation of this topic and I am gratified to find that our profession stands the contrast so well. Human endeavor, in all lines, seems to be concentrated upon the providing of a livelihood. This commendable ambition, however, tends, if I may use the term, to hypertrophy according to the various circumstances that surround the individual in childhood, in youth, and in adult life. In nearly every instance, the successful business man has been forced by circumstances, projected so to speak, into his particular line of success. He would, perhaps, persuade himself that this were not so, but a broader observation would prove the truth of this statement.

In the present day turmoil of apparent civilization and the heat of competition, we are compelled to grasp that opportunity which seems to hold out the greatest encouragement from a monetary point of view, and here it is that the business man's keenness of intellect projects him irrespective f his other, perhaps more noble desires. And how is this alleged keenness developed! As a rule, by close contact with poverty and if not by direct contact then by training in childhood by parents who have experienced all the tribulations of what is often referred to as the "under dog." Hence in medical parlance, it may be expressed as congenital or acquired.

So far I have referred merely to the business man but I might include in this much of the character evolution, every type of individual. I am convinced that the home influence is much greater than most of us will admit. The thrift and economy in one family inculcates like characteristics in the offspring, in most cases, which may readily assume features of stinginess and abhorrent meanness with or without change of circumstances to account for it. The converse of this is also true. I will grant that such families at times produce anomalies that defy tradition and the general rule. But even these follow the rule to an extent—their extravagances are evidences of most consummate selfishness, and the anomaly is only apparent—the characteristic is the same but of a less obvious nature.

We see, on all sides, in the matured character all phases of these traits but I doubt if many of us ever stop to consider the steps in their evolution. This being granted it seems somewhat absurd to criticize the physician, as the layman often does without justification, when he says—"the doctor may be alright but he doesn't know anything about business!" And now to analyze this statement. In the first place—what is business? The lexicographers consume columns with its definitions and synonyms but none seem to define it clearly.

[1]An essay read before the Northern Medical Association of Philadelphia.

One implies that it is the regular occupation engaged in for money. This would seem to include professions, trades, etc., but the word has a narrower meaning. Business is the technic of trading.

A few words are necessary to show the advantage and desirability of this special technic. As we all know there is always a demand for certain standard commodities and as long as these commodities measure up to the standard, this kind of trade will require ordinarily but little, if any, of this technic already referred to. But should overproduction or its corollary, underconsumption, take place we have the factor of competition enter the field, and to combat this, we have the development of this technic. It is a necessity, to the mind of the man of business, that his particular house should be maintained. This is business and to acquire it entails a disregard of every one except self.

This self interest is drilled into the prospective proprietors in the offices from their very earliest apprenticeship. It is then no little wonder that we are unable to enlist such as these into a propaganda for civic virtue, or if we do, the suspicion of personal interest is attached thereto. Nor is it to be marveled at, that it is impracticable to have men of this nature in philanthropic enterprises. If it is desired in any of these enterprises to increase the recipients or rather if the object of these enterprises is conceived to be an increase in the number of charity recipients—Heaven and earth are moved to do so, without giving a thought to the numbers injured directly or indirectly in so doing. In other words, individuals of this character are actuated in all they do merely by a desire of conquest—a desire untempered by surroundings.

Now conquest suggests strife and strife suggests battle and battle suggests soldiery —these are soldiers of fortune—but in these days of civilization or rather in the days of utopian civilization will we regard the soldier, the man who destroys right and left, in war or in business, for his own selfish ends, with anything but abhorrence! Perhaps this is somewhat advanced—or again you may say this strife for survival of the fittest is perfectly natural—so it is, but we are not! We have left the life of the forest and the garments of leaves way behind, and have shown by our governments and our sociologic undertakings that we aspired to better things. Did not our inner consciousness aspire in this regard our many charities, as we are disposed to call them, would appear very ludicrous.

The question naturally suggests itself, where are the leading exponents of these better things to be found? Need I reply that I consider the medical profession, taken collectively, to be in the lead in this propaganda! If a layman, and disposed to continue the argument, you may reply with a cynical leer—why they only know their own line and don't know it very well! Is comment necessary?

But let us reflect. The boy who aspires to be a disciple of Aesculapius is prompted in that desire only by motives of philanthropy. I doubt very much if the apparent easy living or the evident hard work of the calling ever enters into consideration. Usually the lad is well bred, and admires the doctor and the respect his work calls forth. He enters college, if circumstances permit, and during this period, this formative period of his character, he becomes familiar only with the "paying out" side of life. He enters the medical school—every-

thing about which is likewise "paying out." Clinics are free to all sorts and conditions of people; professors go out of their way to do service of one kind or another for nothing—house surgeons give their work gratis to the same cause—all of which makes a tremendously deep impression on these plastic characters, which impression lasts during the lifetime of the physician. He cannot help think that it is an outrage to take a fee from some poor woman whose entire holdings may be only the amount of that fee! He will go further and try to have her comfortably housed or arrange that she may participate in charities of a really useful nature even though he can ill afford to do so! How many young men (and even when no longer young) have stood by the poor of their respective communities when there were no prospects of either pay, experience, glory, cure, or gratitude. These are your every day heroes for whom smallpox, yellow fever, diphtheria, etc., have no terrors and are actuated only by a sense of duty.

It is the experience of every practitioner, that no one wriggles and writhes like the successful business man at the payment of a fee a little above the average, except under certain conditions when the prospect of death stares him in the face when he will do anything. He cannot understand why his fee should be larger for the same services than his book-keeper who revels in the princely salary of fifteen dollars per week. To his mind, it is a deliberate and preconceived idea on the part of the physician to take advantage. His business instinct insists that there should be one standard of prices for the services.

It is an economic principle, and has been well shown in recent disclosures that after adjustments and rebates are made, the large dealer in merchandise and commodities of one kind or another, is able to procure things at a much lower rate than the small dealer, who can least afford to pay the greater rates. This looks fair—it is elementary business. But could we or do we apply such principles to our own work? Yes and no. The well-to-do who are seldom as sick get their services for a reasonable fee—the poor who are most often sick get theirs for almost nothing, frequently entirely gratis. Not only that but we take active measures to prevent their being sick thus eliminating our own field by every step we take. As we are aware, the only means by which the difference between the very rich and the very poor is compensated is by the infections of one kind or another, that are maintained by the very poor by their lack of knowledge of hygiene and the consequent failure to observe its laws. The medical profession takes the task upon itself purely from philanthropic motives—the various health board salary lists will bear me out on this. It would be too trite, perhaps, to discuss the subject of vaccination in this connection but I mention it only in corroboration.

But looking at the matter in another light —the poor are most often ill—those who are disposed to pay must content themselves with a physician who charges but a small pittance for his services. But as we know, his services are disproportionately smaller than those rendered by the man of larger fees. This must be so. He must see more people in a day and he must see each patient more often in order to perform his work properly and conscientiously. This tends to balance things so that in the end the poor patient who pays will be found to be paying the same if not a much larger fee than his more prosperous brother.

Those who patronize hospitals will be found to be paying for their medical attention by the time lost by waiting. Those really entitled are squeezed out by the waiting required incident to the large crowd of impostors.

Here again I must pause to take issue with the popular notion that hospitals, as we know them in this city (Philadelphia), are of infinite value to the community. In the first place, does it not seem possible that in a city which leads the country in manufactures, in individual ownership of homes, in banking credits, as shown during the last few years, and in widows' and orphans' legacies to finance all sorts of dubious schemes, would require 65 hospitals, more or less, and 100 charitable organizations, many of which maintain dwellings for the care of indigent sick, besides the societies for organizing charity. In addition to this there is the charity service supported by the municipality, and the individual charity work performed by the physicians in general.

These institutions not only stifle the spirit of independence in their clientele, which I admit is very weak at best, but by mental suggestion tend to increase the percentage of neuropathic disorders. It is no uncommon experience in dispensary or hospital work where the institution is well-equipped to have patients make the rounds of the several clinics, for no other reason apparently, than because they are at their disposal. The fact that they are all free is too good to be missed and the patient stays for the entire performance. As a mark of appreciation, these individuals influence all their relatives, friends, and neighbors, who are at all susceptible, and bring them at the next visit.

This shows well in the report and the managers are well pleased. The object as explained to the business minds of the board, having been to increase charity rather than to diminish its scope, the results cannot be other than gratifying. The physicians attendant upon the institution enter a feeble remonstrance, perhaps, concerning undeserved charity and they are told to eliminate the undeserving. But as every one who appears insists that he or she is deserving the matter is shortly dropped. The early training of the physician is such that he is lenient and will push the matter no further. Had he an early business training the affair would be carried to the extreme, but had he a business training he would not be found in connection with the charitable institution at all.

This peculiar trait of character on the part of the physician is not to be condemned; its usefulness is to be found in another field. Its influence is indeed great and has been the means of making many families happy—and of moulding men of the community into good and useful citizens. The nature that will prompt a man to stay by a poor inebriate during an attack of delirium tremens and take measures to obtain relief and employment for the family is indeed a noble one; nobler still is it since it is regarded as an everyday affair and beneath narrating. Is this man compensated in any way other than by the satisfaction, or lack of satisfaction that the deed affords him! The work of Walter Reed and his associates may be mentioned in this connection. As our reward, speaking collectively since everyone of us does some little of this work, we have the privilege of knowing of the fortunes of Munyon, Pierce, Mrs. Eddy, and others who have

preyed upon our people. It is significant that they do no work gratis.

I might relate countless instances whereby the non-aggressive spirit of the profession had caused it to be temporarily, it is hoped, superseded by less orthodox pathies, but the object of this paper was merely to show that given an individual of gentlemanly instincts, place him in all atmosphere of unselfish devotion to duty, surrounded by exponents innumerable of this cult, and we have as the finished product the physician, than whom there should be no higher type of man.

1901 Mt. Vernon St.

NEURASTHENIA GASTRICA (NERVOUS DYSPEPSIAS OF LOUBE).[1]

BY

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While the various organs and tissues of the human system possess a certain individuality in the performance of their respective physiological acts, still, the coordination, regulation and functional mechanisms are dependent upon the nervous system.

The involuntary movements are normally under central control but in many cases may go on in the absence of central connection. Just what the nerve impulse actually consists of, whether it is a wave of molecular or chemical change, we do not know, but its result may be manifested in muscular, glandular or sensory phenomena. A functional error may be brought about by the perpetuation of excessive stimuli, by the lack of nerve excitability or conduction, or by a perversion of nervous energy.

Briefly reviewing the nervous anatomy and physiology of the stomach, we find that the anterior surface is supplied by the left vagus while the posterior surface receives about one-third of the fibers of the right vagus. The sympathetic system is connected with the stomach by branches from the celiac plexus. These anastomose with the vagi, and together with numerous gangla form a finely-woven network in the submucosa.

The motor nerves of the stomach are supplied by the pneumogastric. Vomiting, sobbing and other gastric movements depend upon the motor filaments of these nerves. It has been demonstrated that the vagi are also the secretory nerves, but the stomach itself possesses some secretory power independently of the pneumogastric or even sympathetic nerves. The vagi also convey the sensation of hunger.

It is not, however, the anatomy of the stomach which concerns us in neurasthenia gastrica, but rather the great variability in the reaction to impressions in different individuals and a more complicated mechanism of the central nervous system.

Individuals of a neurotic or hysterical type respond to the slightest stimulation considerably quicker, much more intensely (and occasionally by very unusual reflex acts) than a person with an evenly balanced nervous constitution.

When we stop to consider the sudden changes which take place in gastric mechanisms upon emotional disturbance, such as anorexia from excitement, vomiting from visual impressions, etc., it can be readily conceived why, in neuropathic individuals, the stomach is often the favorite seat of functional disorders.

Neurasthenia gastrica is described as a combined gastric neurosis in which the sensory disturbances (subjective symptoms) are the most prominent. This neurosis was

[1]Read before the Utah State Medical Association at the sixteenth annual meeting, held at Salt Lake City, October 3 and 4, 1910.

originally described by Loube as a disorder of the stomach, characterized by a variety of distressing subjective symptoms during the act of digestion, but in which it is normal as regards time and chemism. Ewald and others equally competent maintain that it is but a local manifestation of neurasthenia. Loube has more recently, however, extended his definition to cover other forms, so we now include, under this caption, secretory and at times even motor disturbances.

Etiology.— The predisposing elements which enter into the etiology of this affliction are manifold.

The disease is said to be found more frequently in men than in women, and while it may occur at any age, it is most commonly found between the ages of thirty and fifty. The cases are met with most frequently in persons who have inherited an unstable nervous constitution or who have been subjected to indiscretions which have brought about a general nervous break-down. Mental over-work, especially hurried nervous activity such as bankers and brokers are subjected to, are common causes. Emotional depression from death, failure, responsibility and the like as well as the various phobias form a large group of factors. Constitutional diseases of debilitating nature should also be named. Here we may mention tuberculosis, anemia, chlorosis, malaria and influenza. Persons who suffer from chronic constipation may become victims to the malady.

Sometimes the cause is of reflex origin, dependent upon organic disturbances in remote parts. A large group of causative factors are diseases of the sexual organs. Men with prostatorrhea, spermatorrhea, phosphaturia or those who indulge in sexual perversions and coitus interruptus as well as women with chronic pelvic ailments are common subjects of this disease.

The abuse of alcohol and tobacco are also considered causes. It is claimed by Kemp that neurasthenia gastrica may occasionally appear a definite, independent neurosis.

The direct cause of the disease seems to be due to a condition of unstable equilibrium of the sympathetic nervous system, aggravated by the above mentioned disturbances. Since the sympathetic nerves are in such intimate relationship with all the organs of the system, and the abdominal branches of the sympathetic (the splanchnics) furnish a supply to the vascular as well as the muscular structure of the stomach, any organ being thrown out of cooperate harmony may bring about sufficient instability of the sympathetic system to cause this gastric neurosis.

This would seem to bear out the idea of Ewald, i. e., it is but a local manifestation of a general nervous condition, and that Auerbach's plexus is not alone the seat of disturbance.

So far as investigation of this disease has gone, no pathologico-anatomical basis has been discovered. In fact, it is necessary to exclude everything of an organic nature in the stomach before one is justified in pronouncing the symptom-complex a neurosis. The disorder is one of function and not of structure.

The types of patients who suffer from nervous dyspepsia vary widely from emaciated, skeleton-like figures to well-nourished, healthy-looking individuals.

Symptoms.— Usually, the general symptoms of neurasthenia are prominent, although in some cases the stomach symptoms are so conspicuous that the neuropathic character of the patient escapes notice.

The subjective symptoms begin after meals with a sense of fulness and pressure in the epigastrium. This is often interpreted as pain and magnified by the imagination so that the examiner may be misled. The character of the food seems to make but little difference in the severity of distress—at times it follows the ingestion of light, easily digested foods, while again no discomfort is complained of after eating a heavy, indigestible meal.

Loss of, or an irregular appetite is the rule. The patient may complain of a feeling of depression, insomnia, palpitation, dizziness, headache, lassitude as well as other disturbances of neurasthenia.

As the disease is dependent upon the condition of the nervous system, the surroundings and general mood of the patient have a marked influence on the symptoms.

Additional findings are distention of the epigastrium and eructations of gas, which are at times painful. Regurgitation may occur but actual vomiting is said to happen rarely. Thirst is variable, the tongue is usually clean but the bowels are, as a rule, constipated.

Circumscribed points, sensitive to pressure, have been described as diagnostic. These are near the umbilicus, especially to the left, and below the ensisternum. Ewald has, however, demonstrated cases in which no such points were found.

Upon turning to the gastric analysis we find that the picture is by no means characteristic. There are usually variations in the stomach contents in the same individual, which, it would seem, is peculiar to nervous dyspepsia. There may be a hyperacidity but more frequently a diminished acidity is found. Free hydrochloric acid may be enentirely absent and it is said that the gastric ferments are always present.

The motor functions are usually undisturbed. A fasting stomach is generally empty; and seven hours after the Riegels test-dinner[1] no remnants are to be found. The Boas-Ewald[2] test-breakfast is well digested an hour after the meal is taken.

Diagnosis.— Before a diagnosis of neurasthenia gastrica is arrived at it is necessary to exclude all organic lesions of the stomach as well as ptosis of the viscera, and the stomach must occupy the normal position. Only after prolonged observation and repeated examinations can one be positive as to diagnosis.

The presence of general nervous symptoms in a patient suffering from gastric distress after eating should suggest this affliction. The variations in the stomach secretions upon different examinations, without the evidence of organic disease of the organ; the fact that the character of the food, whether digestible or indigestible, seems to make little difference; and the amelioration of the symptoms upon the mental improvement, all point to nervous dyspepsia.

Other affections of the stomach that may have to be differentiated from this are ulcer, cancer, chronic gastritis, perigastritis and anaemic gastroptotic dyspepsia.

In ulcer there is paroxysmal pain, usually aggravated by taking food. This pain is violent in the epigastrium and passes to the back on a level with the eighth to the ninth thoracic vertebrae. Tenderness upon abdominal pressure can be elicited. Vomiting frequently occurs about two hours after

[1]Riegels test-dinner: One plate of meat broth (400 cc.), beefsteak (150 to 200 gm.), mashed potatoes (50 gm.) and one roll (35 gm.).

[2]Boas-Ewald test-breakfast: One or two rolls and one cup of tea or water. Examine one hour after ingested.

eating and the vomited matter contains much hydrochloric acid. Haematemesis is an important confirmation.

The symptoms of cancer usually come on with indigestion and physical weakness. The patient has a persistent dragging pain which is increased upon eating and pressure. Vomiting is frequent and may be "coffee-ground." Hydrochloric acid is absent and lactic acid and Oppler Boaz bacilli are generally present. Progressive emaciation, the diminution of red blood cells and haemoglobin and the development of a tumor, serve to confirm the suspicion.

In chronic gastritis errors of diet greatly aggravate the condition and the symptoms are quite constant. As a rule, hydrochloric acid is greatly reduced and may be absent. Considerable quantity of mucus is found in the gastric contents.

Perigastritis is one of the sequelae of ulcer but may lead to confusion in diagnosis. The history is important and discomforts of the patient depend largely upon the physical activity, and are not influenced by the condition of the nervous system.

Anaemic gastroptotic dyspepsia occurs in anemic and very poorly-nourished individuals. The distress appears shortly after taking food. Symptoms are variable and persist unchanged for years, disappearing only upon improvement of the general hygienic conditions. The nervous system does not influence the symptoms.

Prognosis.— The course of the disease is dependent upon the disturbing factors. If these can be eliminated, a cure is usually quite easily effected. If mental improvement in the patient can be accomplished favorable results are produced in a few days. On the other hand, relapses come with even greater rapidity under mental aggravation.

Nervous dyspepsia scarcely ever progresses into organic disease. The sequelae depend chiefly upon malnutrition. These may be severe anemia, tuberculosis, intestinal catarrh, chronic constipation, hypochondriasis, etc.

Treatment.— The physician who falls victim to one of these patients soon discovers that no specific remedy is within his reach. Really the ideal place to handle them is in a sanitarium. The treatment for those who are unable to take this retreat may be summed up under the heads: general conditions, dietetics, psychotherapy, hydrotherapy, electrotherapy and medicinal agents.

As the disease is but a local manifestation of a general neurosis, treatment should be directed at the improvement of the general condition. In the first place all unpleasant excitants in the surroundings should be removed. Complete rest from work is very important. Reflex irritants should be sought for and remedied if existing. A change of scenes for a few weeks, such as camp life, fishing, hunting or the like, is very beneficial.

The diet to be advised depends entirely upon the condition of the patient. If malnutrition is an associated condition, forced feeding should be undertaken. Severe cases of malnutrition may require the Weir-Mitchell rest-cure. On the other hand if the patient is well nourished forced feeding is not indicated. If constipation exists a diet suitable for that condition should be given.

The patient should be assured that no serious stomach affection exists but that the nerves supplying the stomach are causing the trouble. Personal trust and confidence in the physician's assurance of improvement are important. Coenheim has secured re-

markable results in the more susceptible patients by treating them with electricity and effleurage over the epigastrium, suggesting that the magnetic treatment has great curative powers.

Cold water procedures should be advised against. Anemic patients should receive lukewarm full baths. Light massage of the body and friction applied to the epigastrium are productive of good results.

Electricity is beneficial, aside from the psychic aspect, in many cases of nervous dyspepsia. Patients with irritable nervous systems should receive the galvanic current but the faradic current is indicated in relaxed patients. One electrode is placed on the back and the other on the epigastrium. Coenheim advises endofaradization by means of the stomach electrode or a copper wire passed through an ordinary stomach tube which is closed at the upper end by a cork. Rockwell uses general faradization by placing the bare feet on one electrode, passing the other over the body.

Various medicinal agents such as iron, arsenic, nux vomica, glycerophosphates, etc., to treat the general systemic condition are frequently necessary. These are especially useful in patients with malnutrition and anemia.

For the general nervous condition as well as for the local irritation, perhaps the most valuable sedatives in these cases are the bromides. Strontium bromide is well tolerated and may be given in large doses. This is especially good where an excessive acidity exists as it renders the stomach contents less acid as well as exercises a sedative effect upon the irritable nervous system.

From my personal experience with these nervous stomachs I have found the most useful remedy to be chloretone. The drug is decidedly a nervous sedative, it is non-cumulative and is free from any untoward effects. If large doses are given, however, drowsiness ensues. The dose used is two or three grains. It exercises a sedative or anesthetic effect upon the nerves of the gastric mucosa and promptly relieves the distress. Gaseous distention often requires treatment and unless fermentation is reduced chloretone fails to secure the desired comfort for the patient. In these cases I am accustomed to adding four grains of resorcin to each capsule of chloretone, which serves nicely to reduce this disturbance. The capsule is given fifteen minutes before each meal.

Remedies to assist digestion are generally quite unnecessary. When the nervous equilibrium is restored and the disturbing factors are removed, the stomach, which has been a vicarious sufferer, resumes again its normal functions.

Report of Cases.— *Patient 1.*—Female, age 30, family history negative. Married about 10 years. No children. Menstruation irregular and painful. Home-life pleasant but husband's mother thinks she should do more work. Has had "stomach trouble" about four years. Complains of loss of appetite, pain in the epigastrium and nausea after eating, character of food makes little difference in symptoms. Bowels are constipated. Is hysterical and will cry when describing her symptoms.

Examination showed rather poorly nourished condition, patellar reflexes exaggerated, hypersensitiveness of the pelvic organs and tenderness at the tip of the ensisternum.

She was given two drachms of liq. strontium bromide before each meal and at bed time, which gave great relief. This improvement, however, lasted only about ten days when she returned for further advice. She was then advised to go to a well known Pacific Coast sanitarium, which she did. There a diagnosis of neurasthenia was made and the physician in charge wrote me ". . . . her stomach disturbance is only

symptomatic of the nervous trouble." At this institution she made great improvement and came home after a few weeks a new woman.

Patient 2.—Male, age 41. Decorator and sign painter. Nervousness dated from domestic incompatability about six months previous to first consultation. Used alcoholics but not abusively. Manifested several peculiarities of neurasthenia, e. g. unharmonious combinations of colors or musical discords were so depressing that he would cry. He complained of a constant distress in the epigastrium. This was made worse by eating. Experienced severe pain in the stomach upon being awakened from a sound sleep. Gaseous eructations annoyed him.

The body was well nourished and subcutaneous fat was abundant. He claimed to have lost twenty pounds, however. Considerable tympany over the stomach area seemed constant. Slight tenderness was elicited midway between the umbilicus and ensisternum. Gastric analysis showed a total acidity of .11%, free hydrochloric acid .06% and absence of lactic acid.

A temporary change of occupation was advised as he felt that he could not take a complete rest. He secured employment as motorman on a street car. The use of alcohol and tobacco was refrained from and a diet slip giving list of foods to be eaten was adhered to. He took a daily warm bath at bed time and was given a capsule containing two grains of chloretone and three grains of resorcinol one-half hour before each meal. Rapid improvement was noted and in six weeks he was entirely free from any annoyance with the stomach.

Patient 111.—Male, book-keeper, age 35. For three years has had dyspepsia. In that time weight has been reduced from 170 to 140. The stomach trouble seems to be decidedly periodical, the patient suffering an attack each month. Upon noting carefully the part of the month, I found the time to be about the latter part when overwork required additional nervous energy. Eye-strain has been excluded.

Patient complains of a fullness in the epigastrium, great distress after each meal, eructations of gas, anorexia and constipation. Is very irritable during these attacks. Owing to responsibility, patient has been unwilling to take a rest or change. Analysis of stomach contents during two different attacks showed total absence of hydrochloric acid and presence of lactic acid.

Some benefit has been derived from strontium bromide. Chloretone serves to reduce the distress during an attack. No cure has yet been effected as patient seems unwilling to forsake the cause.

PATHOLOGY OF ANAEMIA.

BY

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As most writers on this subject conceive of the pathological processes of anaemia as reversions to an embryonal type of blood formation, it may be well for us to review for a few moments certain phases in blood development. Before the appearance of the rudiments of the liver and spleen, red corpuscles are found in capillaries. As to their origin, two views are held. One considers the corpuscles to be formed by a proliferation of the endothelial cells of the capillaries. The second explanation is that they are formed in the substance of large connective tissue cells which later become hollowed out and form the capillaries surrounding the corpuscles. Later certain specialized organs of the body give origin to the blood cells. These are the liver, bone-marrow, spleen and lymph nodes. The liver is the first to perform this function. Smears taken from that organ in a ten weeks' foetus show two kinds of haemoglobin-carrying cells, classified by Engel as metrocytes of the first and second generation. Those of the first generation have large nuclei with well-marked chromatin network and frequently show mitosis, while those of the second generation have one or two more or less

pyknotic nuclei. The few red cells that contain no nuclei are of large size, corresponding to the macrocytes or megalocytes of pernicious anaemia. The protoplasm of these cells is mostly polychromatic. The polychromatic metrocytes, which correspond to the megaloblasts found in pernicious anaemia, are hard to distinguish from large lymphocytes. A rapid change in the blood picture takes place during the second and third months of embryonic life. The non-nucleated red cells rapidly assume the preponderance and the type of the red cells becomes more that of the erythrocyte of the



Fig. 1. Normal blood (after Lehmann).

normal adult blood. At the end of the third month there are numerous orthochromatic normocytes and a moderate number of normoblasts, which often show a considerable degree of polychromatophilia.

Leucocytes make their appearance in the blood at about the tenth week of embryonic life. They are in the form of cells corresponding to the lymphocytes of adult blood with an occasional myelocyte, usually of the neutrophilic variety. Polynuclear and mononuclear neutrophiles and eosinophiles appear from the tenth to the twelfth week, but the lymphocytes remain most numerous even in early childhood.

At the third or fourth month of foetal life the bone marrow takes on the blood-making function. Smears from the marrow show numerous red cells of both megaloblastic and normoblastic type and myelocytes. Polychromatophilia of the protoplasm of the nucleated red cells is so marked that it is difficult to distinguish them from lymphocytes.

The liver gradually loses its erythropoietic function, although smears from that organ at the fifth or sixth month of foetal life still show considerable active red cell production.

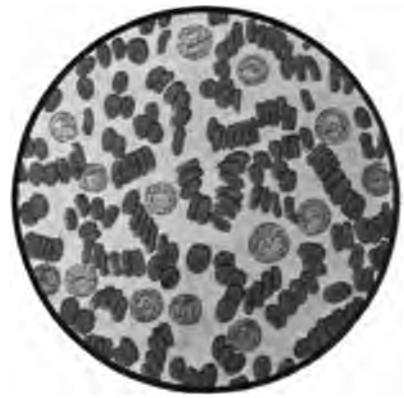


Fig. 2. Leucocytosis (after Lehmann).

The spleen takes very little part in the haematogenesis of blood during embryonic life. Smears from it at the third month show the same picture as the circulating blood with the exception of an increased number of lymphocytes and myelocytes.

The general blood picture shortly after birth becomes that found in the adult. The normoblasts and myelocytes entirely disappear, never to reappear except under pathological conditions. The excess of lymphocytes rapidly diminishes while the eosinophiles increase. The lymph nodes give origin to lymphocytes but are not otherwise active in blood formation.

Pathology of Anaemia.

Classification.— Under anaemia we shall consider those pathological conditions in which the characterizing lesion lies in a deterioration in the quality of the blood, affecting either the red cells, or the haemoglobin, or both. To do this intelligently we shall have to make some classification, artificial though it may be. Clinically, we divide anaemia into primary and secondary forms; under primary, including chlorosis and pernicious anaemia, which are of unknown origin, and under secondary taking in all forms depending upon some other known pathological condition as a cause. Pathologically, however, this differentiation is not so clear. There are so many cases whose blood pictures lie on the border line of the one or the other type that we might more logically divide anaemia, as suggested by Wood, into three types, according to the character of the red cells. They are: 1, the normoblastic and microcytic type; 2, the intermediate type, which may be macrocytic or microcytic; 3, the megaloblastic and macrocytic type. The first, or normoblastic type is illustrated by chlorosis. The second comprises the various forms of secondary anaemia. Here we have a gradation from the border line of the first type to that of the third in somewhat the following order: secondary anaemia due to bad hygienic conditions, to general disease, to poisoning (lead, etc.), to tumors, chronic hemorrhage, etc., and finally the worst form, due to intestinal parasites, which occasionally gives the picture of the typical example of the third type, namely, pernicious anaemia (cryptogenic anaemia). When we consider that the blood picture depends upon the degree of disturbance of the blood producing organs this classification seems most rational.

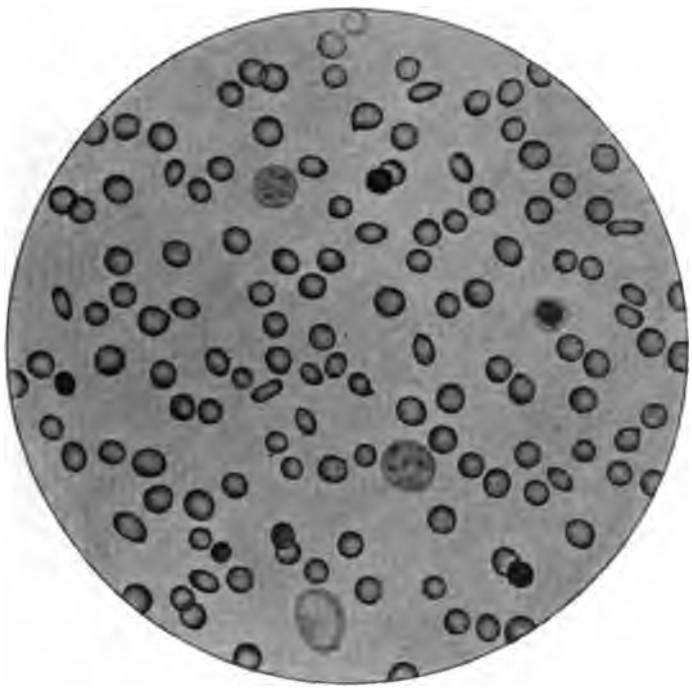


Fig. 3. Chlorosis (after Musser).

We shall now briefly take up the pathology of typical examples of each one of these divisions.

Chlorosis.— Chlorosis is characterized by a relatively high red cell count with a low haemoglobin percentage. In first attacks in young women this relation is especially marked. You may have a red cell count of 4,500,000 with haemoglobin 20 or 30%. In older persons or in long continued anaemias or in recurrences, the red cell count becomes reduced as well as the haemoglobin, so that the characteristic low color index is not so marked. Wood gives an average color index of 0.5 in 350 cases of chlorosis.

Red Cells.— The red cells as a rule are not changed in size; if anything, they have a tendency to being smaller than normal. Occasionally, one sees megalocytes.

When stained lightly the pale central depressions of the red cells show a marked increase. This is especially brought out with the eosin stain, less so with Jenner. In marked cases normoblasts may be found but megaloblasts are exceptionally rare and have been seen only in very advanced anaemias. Polychromatophilia and granular degeneration are present to a moderate degree.

Leucocytes.—The number of leucocytes remains normal but there is a slight relative lymphocytosis with reduction in eosinophiles. Wood gives for example the following as a typical count:

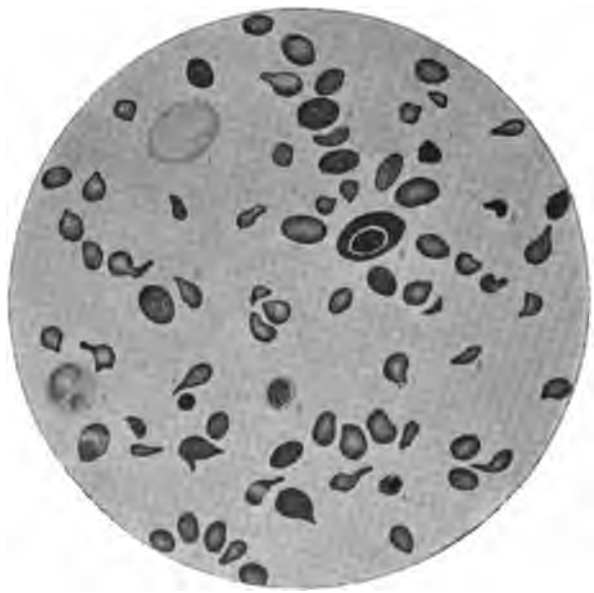


Fig. 4. Pernicious anaemia (after Musser).

Small lymphocytes 18%
Large lymphocytes 17%
Polynuclears 64%
Eosinophiles 1%
Myelocytes are very rarely seen.

The specific gravity of the blood diminishes with the reduction of the haemoglobin. The haemoglobin is also a rough indicator of the amount of iron in the blood. The serum remains practically unchanged.

Other Lesions in Chlorosis.—As so few cases of pure chlorosis come to autopsy, it

is difficult to state what other organic lesions outside of the blood are present. Grawitz, who thoroughly examined the tibiae of two chlorotic girls, was unable to find any disease changes macroscopically or microscopically in the distribution of the red and fat marrows. Virchow claimed to have found changes in the circulatory apparatus, such as a defective development of the heart and of the large arterial vessels, with a hypoplasia or dwarfed state in which the changes in the vessels become manifest by abnormal narrowing, thinness, and elasticity of arteries, and also by irregular ramifications of the vessels. These lesions were considered so characteristic that the narrow, thin-walled, and enormously elastic aorta was designated as "aorta chlorotica." Although these lesions are present in some cases, they hardly explain the diminution of the haemoglobin content of the blood, nor why so many cases are readily and permanently overcome, nor the fact that men, who according to Virchow, also frequently suffer from hypoplasia of the heart and arteries, are so rarely attacked by chlorosis. At most, these lesions when present can only be looked upon as predisposing factors. Hence, it must be admitted that at the present time a definite anatomical cause of this disease is unkonwn.

Secondary Anaemias.— The pathological blood picture of secondary anaemias ranges in character from one of severe chlorosis to that of beginning pernicious type, depending upon the kind and degree of the primary disease causing it.

Bad Hygiene.—In secondary anaemia due to bad hygienic surroundings we have a blood picture often closely resembling severe chlorosis. The patients usually suffer from lack of iron in their food as they use very little meat and vegetables and live mostly on farinaceous substances which contain very little iron. Accordingly, the haemoglobin suffers the most.

The secondary anaemias due to general disease as prolonged suppuration, acute infectious processes, diseases of the gastro-intestinal system, syphilis, and malaria show a greater destruction of the red cells with a correspondingly low haemoglobin. In puerperal infections, for example, the red cells may be reduced to 20% of their original number in a few days while in malaria with chronic cachexia as low a number as 500,000 to the cubic millimeter has been reported (Wood).

Poisoning.—The cases in which the anaemia is due to poisoning are usually quite severe in type. In lead-poisoning granular degeneration of the red cells and polychromatophilia are especially marked. The granulation varies with the severity of the attack and with the symptoms. When the granules become less, the case is improving and when they entirely disappear, attacks of colic are not likely to occur. The polychromatic cells often contain small vacuoles and other evidences of degeneration. In advanced cases normoblasts may be found and a few megaloblasts occur in the most severe forms, which are usually fatal.

Some of these cases have the general morphology of pernicious anaemia. Arsenic, copper, cobalt, thallin, and the inhalation of illuminating gas also cause some granular degeneration. Potassium chlorate and substances of the aniline group, as nitrobenzol and acetanilid cause very severe anaemia. Polychromatophilia and granular degeneration may be well marked. Normoblasts may be present in great numbers and

later megaloblasts and red cells with mitoses are present. The red cell count may diminish to 900,000 per cubic millimeter.

The form of anaemia resulting from malignant tumors depends upon the situation and the type of the tumor. The amount of anaemia is increased where the tumor presses on or invades important structures. When it involves the bone marrow the type of anaemia is often more rapid and severe, causing the appearance of numbers of nucleated and degenerate forms of red cells. This is also more apt to result with rapidly growing tumors and especially with metastases than with slowly growing tumors.

Taking carcinoma of the stomach as an example of anaemia due to tumors, we have on the average the following blood changes: 1st, low haemoglobin; 2nd, low specific gravity; 3rd, high blood count giving a low color index. This gives us a chlorotic type of anaemia. Though severe cases may clinically simulate pernicious anaemia, a blood examination will generally show the following differences: over one million red cells, with the cell type microcytic and a clot which is quickly and well formed. Metastasis in the bone marrow is apt to cause the appearance of more megaloblasts in the circulation, as well as the appearance of myelocytes of various types. Polychromatophilia and granular degeneration of red cells and poikilocytosis are found in all pronounced cases. The white blood cells furnish a differential point in that the polynuclears are generally relatively increased, averaging 70 to 75%, the large mononuclears are slightly increased while the lymphocytes are relatively diminished, thus differing from pernicious anaemia, where the lymphocytes are relatively and even absolutely increased.

Basophiles may reach as high as 3%. Leucocytosis is generally present, reaching sometimes 30 to 40 thousand per cubic millimeter.

Finally, intestinal parasites may cause very severe anaemia. The uncinaria duodenale when infection is mild, produces a simple anaemia of a chlorotic type with an increased number of eosinophiles. In the more severe infections, the red blood cells may reach one million to a cubic millimeter with a moderate number of normoblasts and megaloblasts. The color index is usually low in contrast to pernicious anaemia. The eosinophiles may reach as high as 72% of the leucocytes. There is generally a moderate leucocytosis. The Bothriocephalus latus may likewise produce a mild chlorotic type or a severe pernicious type of anaemia, but there is no eosinophilia. The color index is usually high and the leucocytes are present in about normal numbers.

Before considering the pathology of pernicious anaemia, let us briefly review a form of secondary anaemia which really deserves a separate description, that is anaemia following hemorrhage.

Anaemia following Hemorrhage.—During the hemorrhage the diminution in number of red cells and amount of haemoglobin is approximately in proportion to the amount of blood lost. After the hemorrhage ceases the reduction continues for about twenty-four hours, probably because the replacement of lost fluid by tissue fluids is more rapid than cell replacement. Occasionally it may continue for some days which may be due to the lessened resistance of the corpuscles first turned out by the bone marrow to replace the loss. (Wood). If the bleeding is slow the reduction in red

cells and haemoglobin is more gradual. In a case of hemorrhage extending over ten hours' time the red cells numbered 900,000 to the cubic millimeter and Hayem reports a case where after six days' bleeding they were reduced to 550,000. Restitution in the red cells may begin in a day or so or be delayed eight or ten days, depending upon the amount lost and the health of the individual before the hemorrhage. To restore the normal number of cells found in the blood may take several months. Bierfreund, as quoted by Wood, states that it takes four weeks to replace a loss of 25%. It takes longer to bring the haemoglobin back to normal. Tallquist has found that the rapidity with which the latter is restored is directly in proportion to the amount of "reserve" iron found in the liver.

Blood Picture.—After a severe hemorrhage the circulating blood shows the presence of normoblasts which in some cases form a considerable proportion of the red cells. They occur in what are called "blood crises" which last a few days. Between the crises the blood may be comparatively free from normoblasts. Microblasts are rarely found and during the recovery from long continued hemorrhage an occasional megaloblast may be present. Polychromatophilia occurs soon after a hemorrhage but soon disappears. Poikilocytosis is generally observed. Deficient haemoglobin is apparent from the increased size of the central depression of the red cells. There is usually an absolute polynuclear leucocytosis.

Bone Lesions.—The normal fatty marrow in the long bones is replaced by red marrow, which consists largely of nucleated red cells of the normoblastic type.

Pernicious Anaemia.—The blood in typical cases of pernicious anaemia is quite characteristic. As the blood serum is relatively increased compared to the corpuscles, the whole blood is very thin and fluid. In advanced cases the specific gravity is greatly diminished and the coagulation is retarded. The relatively high haemoglobin content of the red cells gives the blood as it flows from a wound a deceivingly deep red color. The red cells are greatly diminished in numbers, the minimum on record being 143,000 per cubic millimeter (Quincke), the average number for a marked case being one million per cubic millimeter. Rouleau formation is almost entirely absent and there are many poikilocytes. Blood plates are scarce and fibrin is scanty in amount. The individual red cells are evenly stained as compared to chlorosis, where there is usually a light depression in the cells. This is due to the large amount of haemoglobin present in each cell. The haemoglobin determination verifies this and gives us a high color index. As to the size of the individual cell, the average is larger than the normal as contrasted to the cells in chlorosis and secondary anaemia, where the cells are rather smaller in type than the normal.

In advanced cases very large megalocytes may be seen. Of the nucleated red cells there are three forms present, the normoblasts, the microblasts, and megaloblasts. Of these, the megaloblast is the most frequent, while the microblasts are very few in number. We may recall in contrast that in severe secondary anaemia the normoblast was the characteristic nucleated cell, while megaloblasts were very few in number. Polychromatophilia and granular degeneration are very common. The polychromatophilia present in some of the normoblasts often make it difficult to distinguish them from small lymphocytes. Mitotic

figures are occasionally found in the normoblasts and rarely in the megaloblasts. The white cells are usually reduced in number, the average given by Wood being 4,000 to a cubic millimeter. The lymphocytes are relatively increased, while the polynuclear neutrophiles are diminished. The iron content of the blood is greater than one would be led to suspect by the haemoglobin determination. This is probably due to the great amount of breaking down of red blood cells due to the causes acting in pernicious anaemia.

To recapitulate: the characteristic features of the blood in pernicious anaemia differentiating it from that of severe secondary anaemia, are a high color index, the large number of megalocytes and megaloblasts, and the relative increase of the lymphocytes.

General Pathology.—Turning our attention to the pathology of the organs of the body in pernicious anaemia, we note the intense pallor of all the organs, the bright red color of the muscles, the brilliant yellow of the fat, the frequent evidences of serous effusion, and the patchy hemorrhages of the serous surfaces. As a result of the extensive hemolysis, we find an accumulation of iron-bearing pigment, especially in the liver, the spleen, and the lymph glands. In an unsuccessful attempt to compensate for the fearful destruction of the red blood cells, the fatty portions of the bone marrow are supplanted by active blood forming tissue, which closely resembles the foetal type. In a series of ninety-six cases reviewed by Cabot, 84% showed lesions of the spinal cord. The degeneration affected chiefly the cervical regions and the posterior columns. Fatty degeneration is most striking in the heart muscle, the liver, and kidneys. In most cases the liver is somewhat enlarged and intensely yellow.

The changes in the bone marrow are most interesting. The shaft of the long bones may be bright red color from one end to the other and very soft in consistency. But this does not hold true of all long bones, for, according to Lazarus, we may have hyperplastic lymphoid marrow in one long bone, while in others the marrow is normal. Microscopic examination of smears or sections of bone-marrow shows the presence of an unusually large number of megaloblasts with an enlargement of the germinal centres of the erythrogenetic portion of the marrow. This is in contrast to the condition in secondary anaemia, where the red color is due to the large number of normoblasts present. The leucoblastic activity of the bone marrow is stimulated even more than the erythroblastic, for the nucleated red cells are rarely more than a tenth as large in number as the leucocytes. The most striking increase is in the nongranular mononuclear basophilic cells. The granular myelocytes and leucocytes are also increased in numbers but not so markedly. There is a moderate amount of phagocytosis. Besides these changes in the contents, the bony canal itself may be enlarged and the bone thinned.

The Spleen.—The spleen is usually atrophied, sclerotic, and shows macrophagic activity. It is tough, brownish-red and as a rule is remarkably poor in cells, especially in red corpuscles. The majority of the cells present are lymphocytes and large phagocytic cells. The stroma is hypertrophied. Pigment is present, both intracellular and extracellular. It is so abundant and stains the fibrous bands so that sometimes it can be seen with the naked eyes.

Lymph Glands.—The lymph glands show similar lesions as the spleen only less in degree.

Liver.—The liver also shows an abundance of iron pigment, especially about the nuclei of the cells. "Aubertin surmises that it has been brought there from the spleen in the phagocytic cells, which are so much more abundant than red cells in the hepatic capillaries."

Experimentally, it has been shown that the liver and spleen can take on the function of blood-production when anaemia is so extreme that the bone marrow cannot supply the demand. That the spleen can do so has been demonstrated by Bizzozero and Salvioli in 1881 experimenting upon guinea-pigs; by Howell in 1888, who produced arterial hemorrhage in cats; by Pupoff, 1892, who produced toxic anaemia. Eliasberg bled cats and dogs and on taking sections from the spleen found many nucleated red cells, especially in the neighborhood of the veins. Grünberg and Dominici obtained like results. Heinz, using blood poisons on guinea-pigs, showed blood production in the spleen. When the destruction of the red cells was very rapid the spleen showed positive results. In man, splenic blood production was demonstrated by Foá and Pellacani in a case of secondary anaemia; by von A. Wolff, Engel, Erich, Meyer, and A. Heineke, in pernicious anaemia; by von Kurjuweit in bone carcinoma; by von Nauwerck in osteosclerosis. A. von Domarus reports on experiments which he carried out on nine rabbits. He produced an anaemia in each case by one of the following toxic substances; phenylhydrazinacetate 1%, pyrogallol 10%, pyrodin (acetylphenylhydrazin), and hydroxylamin. In three cases he produced acute blood destruction which resulted in a severe anaemia without blood formation in the spleen and liver. In six cases he produced chronic anaemia (forty-five days' duration) and found on autopsy that blood cells were produced in both liver and spleen. In a few of these cases he allowed longer intervals of rest between the injection of the drug, during which the blood would improve. These cases on autopsy showed most marked blood production in the liver and spleen. That the cells were formed in the liver and spleen and not simply brought there from elsewhere is probable from the fact that active mitosis was seen in the blood cells of those organs. Mitosis was never seen in circulating blood. Furthermore, smears taken from the liver showed far more nucleated red cells than smears taken from the circulating blood of the same animals just before death. In four animals where the comparison was made the following proportions were obtained:

Circulating blood.	Liver.
2.2%	14.8%
.5%	12.9%
0.0%	25. %
.5%	38.2%

The section of the liver revealed a great similarity to the foetal liver in that the capillaries were filled with many cells, partly erythroblasts and partly lymphoid cells, and in that it is hard to distinguish between intra- and extra-capillary position of those cells.

The spleen showed a diminution of the follicles with an increase of the pulp. The venous sinuses were packed full of nucleated red cells. There were large mononuclear cells with broad, ungranulated protoplasm present. There were macrophagic cells, many filled with pigment ranging from an intact erythrocyte to small particles of pigment. Smears taken from the spleen reveal large lymphocytes, small

lymphocytes, broad-brimmed, granular-free cells with indented nucleus, many nucleated red cells, and very few myelocytes. The bone marrow had developed a proliferation of erythrocytes and lymphoid cells with fewer granulocytes; there were many pigmented phagocytes and giant cells but no fat tissue areas.

From these experiments and observations, we are led to deduce that probably in pernicious anaemia there is a toxic substance which injures the blood and leads to increased blood destruction; but with sufficient power of regeneration of the organisms, the organs which are blood producers in the embryo (spleen and liver) with the increased need of new blood react for repair with the bone marrow.

There is one type of anaemia which is quite rare, in which the power of reaction is practically lost, that is the aplastic anaemia. The blood has a low color index in contrast to the high index found in ordinary pernicious anaemia. The polynuclears, eosinophiles, and mast cells are markedly diminished so that the lymphocyte percentage is increased. Normoblasts and megaloblasts are usually absent. There is little or no poikilocytosis, polychromatophilia or granulation in most cases, and the blood platelets are always very scanty. The erythroblastic tissue in the long bones has quite disappeared, leaving the bones filled with fat from end to end.

The spleen shows the same condition as in the usual hyperplastic type of pernicious anaemia.

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SIR WALTER RALEIGH'S "ROYAL CORDIAL."—Concluded.

(With some Side-lights on the Clinical Medicine and Therapeutics of His Generation, and Incidental Glances at its Political and Social Morality).

BY

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Edinburgh, Scotland.

(*Continued from page 157.*)

To begin with the now *un*scientific and *un*clinical "hartshorn" (*Cornu Cervi*). We find that highly respectable—and highly prolific—authority, William Salmon, inevitably profuse in his exposition of the therapeutic possibilities of the various organs of the Cervus ("Hart, Deer, or Buck"), and thus doth he discourse when he comes to manipulate *"The Horns."* They are Sudorifick, Alexiphavmick, and Analeplick, Cephalick and Hysterick. 1. The burning of Harts-horn. *The* Colledge *orders them to be Calcined in a crucible till white, then beaten into powder, washt in Rose-water levigated upon a Marble, and made into Troches. In the last pound of Rose-water you may dissolve Camphire* ℥ss, *if you please.* It has all the former Vertues, stops Fluxes, resists Poyson, provokes Sweat, kills worms, and is a good thing for children. Dose à -)i ad ℥i. 2. Magistery of Harts-horn. *Dissolve rasped Harts-horn in Distilled Vinegar; precipitate with Oyl of Tartar of Vitriol, wash and dry; you may*

also dissolve it with Spirit of Nitre or Aqua fortis, but 'twill be apt to flame; to prevent which, to the Solution, put a quarter part water; filter, precipitate, and sweeten. If you precipitate with *Alcalies,* the Magistery will be yellow; but if with *Acids,*—white. This has the former Vertues. 3. Gelly of Harts-horn. *Take the shavings, boyl them in Spring-water till they are dissolved, filter, and then coagulate: If you make the water sharp with Oyl of Sulphur, 'twill dissolve the sooner. It restores in Consumptions.* 4. Liquor, Oyl and Volatile Salt of Harts-horn. *They are drawn by a Luted Retort in a naked fire, so have you a sharp Liquor mixed with flegm (which is vulgarly called Spirit, Volatile Salt and Oyl, which restifie. These have all the Vertues of the Horn, besides which, there is scarcely any thing known more excellent against Fits of the Mother, Apoplexies, Convulsions, Epilepsies and Palsies.* Dose à gr. iiij ad viij or xii. 5. Fixed Salt of Hartshorn. *It is done after the common way. It cures all sorts of fits. Some digest this Salt with rectified* S. V. *a Month, and then draw off a good part of the* S. V. *keeping the remainder.* Dose à gr. vj ad 3ss. 6. Extract of Harts-horn. *It is done by adding its proper weight to the shavings, and then extracting the tincture by a convenient digestion.* 7. Water of Harts-horns. ℞ *Young Deers horns full of blood, cut them into small pieces, and then distil them in the heat of a Bath,* per se, *or with a small mixture of Canary-wine, till all the Liquor be come forth.* It is a very good thing against the Falling Sickness, Convulsions, and all sorts of burning and Malignant Feavers. Dose one spoonful either alone or with Piony-water, or in Rhenish-wine."—Thus the preparations of Hart's horn were credited with almost unlimited curative powers in the principal disorders of the neuro-muscular system!

The prodigious resources of the muscular energy with which Nature had endowed the Deer was undoubtedly the special feature which enlisted the hopes of the purveyors of the great natural system of *Animal Therapeutics* which flourished so extensively in the older centuries—of which a feeble revival, on a small scale, has been attempted of recent years. To this attraction—produced by a very obvious physiological peculiarity—was superadded the more mysterious magnetism of the animal's reputation for longevity.

Then the uncanny modes of movement and the weirdly destructive powers of the prominent numbers of the serpent tribe were responsible for the genesis of expectant hope in the bosom of the therapeutist of the prescientific ages. The truly strange animal whose movements formed one of the puzzles which even the wisest of men recognized as hopelessly insoluble, became, even in the prehistoric ages, a popular symbol of *wisdom*—from its supposed *subtlety;* of *death,* from its notorious powers of destruction of *life;* and of *immortality,* from its possession of the special accomplishment of easily arranging its own body in the form of a *quam proxime* perfect circle (line without beginning or ending)—by taking the tip of its tail in its mouth. The pharmacologists took up the marketable hints and utilized them in their own special line of business. Serpentine therapeutics occupy a considerable section in the columns of Salmon's *New Dispensatory.* The following extracts from the paragraph which deals with the Viper in this aspect:—

"The Flesh, Liver and Bones have no Poyson in them. 1. *The Head* of the Viper is used as an Amulet, to be hung about the Neck, and to cure a Quinsie. 2. *The Flesh* is hot and dry: and purges the whole Body by Sweat; and being eaten or drunk, it cures the *French Pox* and the Leprosie. 3 *The Broth* of them performs the same things, eating half a Viper at once, and fasting five or six hours after it; so also they cure all old Ulcers and Fistula's, clears the Eye-sight, help the Palsy, and strengthen the Nerves. 4. *The Ashes of their Heads* mixt with a thick Decoction of bitter Lupius, and used as an Oyntment to the Temples, stops

Rheums falling into the eyes, and helps their Dimness, and is an excellent thing against *St. Anthony's Fire.* 5. *The Fat or Grease* mixt with Honey, is an excellent thing to clear the sight. 6. *The whole Viper* in powder (the Head and tall excepted) cures perfectly the Gout, King's Evil, taken twice a day to ʒij or more. 7. Oleum Viperarum. ℞. *Black* Vipers ℔ iij. *Oyl of Jessamin ℔ ij boyl them in a close Glass, till the flesh falls from the Bones; or you may make an Oyl of them by Descention.* It cures the Gout, Palsie and Leprosie, cleanses the skin, and helps all the Defects thereof. 8. Viper Wine. *It is made by drowning live Vipers in the Wine.* It cures Leprosies and the French Pox. 9. Powder of Vipers Compound. It is made as that of Serpent's, and has all the same Virtues. 10. Quintessence of Vipers. *It is made as we have taught in our Dor. Med.* Lib. 2. Chap. 8. Sect. 2. and is very powerful against Leprosies, the French Pox and all Impurities of the Flesh and Blood. 11. Essentia Viperarum. ℞. *Of the Livers and Hearts of Vipers,* ana, *dry and bruise them, and extract a tincture in 7 days with* S. V. *rectified:* to ℔j *of this Tincture add of the fixed Salt* ℥ss, *mixed with the Flegm and Spirit of Vipers, drawn off by distillation; of the Volatile Salt* ℥j *digest till they are united; so have you a most ennobled Essence of Vipers, powerful to all the aforesaid intentions. Dose ad* ℈ij. It is a most excellent Medicine, Dissolves all Excrements and Coagulations of Humors, Dissolving, Purifying and Cleansing like Soap; carrying on fevery Ill by Urine, Sweat, or insensible Transpiration, curing all sorts of Gouts, the Stone in both Reins and Bladder, Leprosie, French Pox, Scurvy, Melancholy, all Obstructions and Putrefaction, loss of strength, decays of Nature and Consumptions, so that, as it were, it even renovates a Man, by taking away what is contrary to Nature, and adding what is requisite. 12. Spirit, Oyl Volatile and fixed Salt of Vipers. ℞. *Dryed Vipers with the Liver and Hearts, cut and partly bruise them, put them into a Retort, from which distil* gradatim *into a large Receiver; so have you a flegm and spirit, and then a Volatile salt, sticking to the neck of the Retort, and sides of the Receiver; and at the last a thick stinking Oyl, which seperate. Purify the Volatile salt in a long glass, and sublime it by an Aleinbick in sand with a gentle fire, lest any humidity should follow, as is usual if the fire be increased. This salt is wonderful piercing and volatile, and therefore ought to be kept close in a glass, with a glass stopper: From the Caput Mortuum you may make a fixed salt, the common way.* The Volatile Salt and Spirit, are wonderful Medicines, they resist Putrefaction, open all obstructions, cure Quortens, and all sorts of Feavers, given an hour before the Fit, in a convenient Vehicle, to allay the sharpness, as in the Emulsion of Almonds with a little rose and Cinnamon-water and white Sugar, Dose of the Volatile Salts is à gr. vj. ad x. or xij. of the fixed à ℈ss ad ℈j or ʒss."

A goodly proportion of the vegetable remedies contained in Raleigh's *Royal Cordial* are still known to therapeutic fame, although the brilliancy and artistic (and sometimes approximately, if not wholly, miraculous) decorations, with which most were then furnished have become badly obscured or grossly tarnished. Even a single glance at the various names of the ingredients reveals to the perceiving eye a vast area of therapeutic history, inasmuch as all the agents are included which had a place in the foremost rank allotted to them—by the collective scientific estimation of the learned oligarchy of that age. Many of the positions so accorded were based on the claims which had been advanced on their behalf by the time honoured classical authorities of the twilight dawn of the art of healing: Dioscorides, Pliny, and Galen. They are too numerous to be discussed *seriatim;* but a few references to some of the items which were among the less familiarly known to the amateur scientist of the seventeenth century may interest the inquiring reader of the twentieth. The *Grana Kermes* were formed of the:—

"Juyce of the berry Chermes. The best grains are such as are whole, are of a blackish red, and have a little Worm in them. Essence, Juyce or extract of Chermes is made of the Fruit bruised with Spirit of

Wine, or good Canary, Sherry or Rose-water, made sharp with some drops of Spirit or Oyl of Sulphur. It is hot and dry, a great Cordial, Sudorifick and Alexipharmick; it comforts the heart, revives all the Spirits, Natural, Vital, and Animal, refreshes a weary Carkass, hastens the birth in Travel, drives out the Measles and small Pox, resists the Plague, and all Pestilential Feavers, defends the heart from Poyson, cures wounded Nerves, and is Traumatick and Pectoral."

But the identity of the *insect, Kermes sive Chermes* (*grana tinctorum, Coccus Baphica sive* insectorius, C. ex Ilice, &c., &c.) was recognized by James, who refers to the description of Dioscorides.

The almost priceless value of *Cinnamon* in the days of Raleigh receives interesting illustration from an anecdote related of a meeting which took place between the Emperor Charles V. and the then head of the famous financial Fugger family, at the residence of the latter in Augsburg. The head of the Holy Empire was indebted to the banking Monarch of this generation for a personal loan which represented several millions sterling of the currency of the present day. In the course of an Imperial "progress" he paid an arranged visit to his great and powerful creditor. And such is the (or *was* the) glamor of the presence of the Lord's anointed, that the Augsburg banker was so much elated by the prospect of the Imperial visit, that he had prepared for the occasion an exquisitely constructed *pyre* of *cinnamon*, on the apex of which was placed the *Imperial bond*. After the generous host had received and entertained his visitor, he conducted him to the pyre, and set fire to it. Both looked on while spicy bark and bond passed into ashes; *the value of the former was said to be even greater than that of the latter!*

The *Sassafras* was popularly denominated the *Ague Tree*, from one of the special therapeutic virtues attributed to it by the voice of popular opinion. "It is a great Tree growing in Florida (with a leaf like a Fig-Tree) of an Aromatic smell and taste. The Bark is the best, especially if it comes from the Root; . . ." And we further learn from the same inexhaustible Salmon: "Of Sassafras Wood or Root. It is hot and dry in 3°. It attenuates, opens, discusseth, and is Sudorifick: It helps most diseases proceeding from obstructions, and is of singular use in diets in the French Pox: it strengthens the whole body, and cures barrenness: and is a Kind of *Panacea* or Universal remedy against defluxions of Rheum." The localities known to be favored by the growth of the Sassafras tree were (significantly in the present connection) *Virginia* "and other Parts of the *West Indies.*" James tells us that: "Much about the same time with the other anti-venereal Woods and Roots, was imported the Wood called *Sassafras,* from several Parts of *America,* but principally from *Florida,* where the Natives call it *Pabamwe.*" The same author tells: "as *Sassafras* comes next to *China* in the Virtue of curing the Symptoms of the venereal Disease, so it is very much inferior in that respect to *Guaiacum* and *Sarsa-parilla.*"

Of the mineral ingredients of the *Royal* Cordial, but few, if any, can be said to have transmitted—at least to orthodox medical centres—their once mighty reputations down to our twentieth century. Still it is of interest, surely, to cast a passing glance at some of the mighty wrecks. The reputation of the *Bezoar* stone once pervaded Christendom. The original edition is said to have been prepared by the Persian goat. Being an abnormal constituent of the living animal body ("found in the Stomach, or Cavities adjacent to the Breast, of an oval form, . . .") this (usually) gastric *calculus* must needs be endowed with therapeutic properties and powers correspondingly (supernatural or) abnormal: "The *Persian* is best, then that of *Peru,* then that from *New Spain.* It is Cephalick, Cardiack, Sudorifick, Antifebritick, and Alexiphar-

mick. It is excellent in Vertigoes, Epilepsies, Megrims, Melancholy, Quartans, Old Diseases, Measles, Small-pox, Plague, Poysons, Worms, all sorts of Feavers, Faintings, Palpitation of Heart, Jaundice, Cholick, Stone, Stoppage of the Terms, giving also easie Labour to Women in Travel. Outwardly it is excellent in Scald Heads, burns, scalds, ulcerated Cancers, Scrophula's." The learned Dr. James, of "antimonial powder" fame, tells us that the name was originally a Persian word, equivalent to the *antidote* of Greek derivation. Also, that it was said by some that this stone was only to be found in mines, while by "others, that it was to be met with in the Heads of certain Serpents: But the most judicious Authors of that Nation have given an Account, which has since been confirmed by the Relations of several Travellers, which is, that this Stone is found in the Corners of the Eyes of such Stags as have eat Serpents; where, growing gradually bigger, by the Formation of one Crust above another, it at last acquires such a weight, as to drop off of its own accord, and is found in the sandy grounds of *China* and *Tobout* or Tebet. If applied to wounds, occasion'd by the Bites of venomous Animals, it extracts the Poison lodg'd in them; for, as soon as it comes into Contact with a Wound of this kind, it adheres to it of its own accord; . . . . ." Great was the therapeutic faith of those days!!

The *Coral* has not quite lost its therapeutic reputation with the educated lay "general," as its not infrequent presence in the mouth of the teething infant still testifies. The *Magisterium Coralliorum* was thus prepared:

"Dissolve lævigated Coral in Spirit of Radicato Vinegar, that it may overtop it in the breadth of three or four fingers; digest in ashes, then decant the solution, putting on more vinegar till the residue is dissolved, filter and with Oyl of Tartar *per delinquim* precipitate, so will a white powder fall to the bottom, which sweeten by washing with cordial waters and drye." But our authoritative and encyclopædic William Salmon held this preparation in quite backward respect. Regarding its properties he observes:—

"That the difference between the Salt and Magistery is this: The Salt is the Calx of Coral impregnated with some of the acid Spirits of the Menstruum, incorporated in it by Crystallization. The Magistery is the said Calx freed from the said Acids by washing: hence it is that the Salt is a little acid, the Magistery insipid. The Magistery of Coral is reported to have the Vertues of Coral; but simple levigated Coral is a hundred times before it. For the Vertue of Coral is to destroy acids and unnatural ferments (which are the cause of most Diseases); if once its alkalious matter be satisfied, and weakened by an external agent, before it comes within the Body; Reason tells us it will be impossible for it to act at all within; a thing can be but full, and being full, 'twill hold no more: Therefore I advise rather to the crude levigated powder."

"DIACORALLION: *The Coral Electuary*" was an officinal preparation in the middle of the eighteenth century, and we are assured by James (a reliable witness) that: "This hath been continued thorough all the Editions of the *College Dispensatory* the same:

"Take of white and red Coral, of the true *Armenian* Pole, and Dragons Blood, of each one Dram; of Pearls, half a Dram; of Aloes-Wood, red Roses, Gum Tragacanth, and Cinnamon, of each two Scruples; of white and red Saunders, of each one Scruple; of Sugar, dissolv'd in small Cinnamon-water, four times as much as the whole; and make them into an Electuary."

The great medical lexicographer declines to determine "whether—Coral exhilarates the Heart, or is a preservative against—the Epilepsy."

The various *earths,* which entered into the composition of the *Cordial,* owed, of course, whatever (non-imaginary) curative properties they happened to possess to the presence of special chemical constituents. The *Bolus Orientalis,* it must be noted, possessed a reputation of vast dimensions in those days. We are told that:

"It is a pale old Earth, impregnated chiefly with Iron Vapors. It is very dry, Astringent, and strenthening; good to stop

Fluxes, thicken Humors, resist Putrefaction, expel Poyson; and therefore is excellent against the Diarrhœa, Dysenteria, flux of the Terms, Catarrhs, Spitting Blood, Bleeding at Nose, and Wounds, &c.; often used outwardly in strengthening Cataplasms, and binding Powders." It undoubtedly owed a large proportion of its (very persisting) reputation to the fact that its use was recommended by Galen—taken in Wine—in the treatment of "putrifying Ulcers of the Mouth, Ulcers in the Tabes, and Pestilential Diseases."

Of all the ingredients of Raleigh's noted specific, there is probably none of which the seventeenth century natural history presents an aspect more quaint to the average reader of today than does that of *Ambra grisea.* We find that the accepted version of its origin and functions was that:—

"It is a Marine Sulphur, found at the Sea-shore, chiefly in the *Indies,* which breaks from Fountains and Caverns of the Sea. It is either natural or factitious. The natural, which is best, is grey, sweet and smooth, pricked with a needle it sweats out fatness, softens in the heat, and when moist appears black. The factitious or adulterate is a cheat, being black or whitish, made of a little mixture of Musk and Civet with Storax, Laudanum and wood of Aloes, and may easily be known by the Scent. It is hot and dry, an excellent corroberative, it is discutient, resolutive, alexipharmick and analeptick; it strengthens the heart and brain, revives and recreates the spirits, natural, vital and animal: Its sweet Sulphur is an excellent Perfume; it is a good preservative against the Plague, and preserves the Spirits from infection: Dose à gr. j ad gr. iiij." It is of some interest, in the present connection to note that James recognized an analogy in the origins of *Bezoar* and *Ambergrise.* The great medical lexicographer also refers to the account printed in the *Philosophical Transactions,* which made it "the Product of a certain unknown Tree, from whose Roots it flows into the Sea," and to yet another in which it was "said to be the Combs of a Sea Insect, somewhat like a Bee."

In drawing to the close of this communication, and while apologizing to the reader for its prolonged claim on his attention, I will take the opportunity of expressing the hope that he will agree with me that the perusal of such items of opinion and representations (and misrepresentations) of facts, as they are found to have existed in the murky twilight of modern science, must necessarily present some perennial interest to the student of the growth, development and progress of human opinion and knowledge and civilization and culture, and still more especially to the medical man who is dutifully devoted to his noble calling. The selection of remedies used in the preparation of Sir Walter Raleigh's panacea conclusively demonstrates the fact that his therapeutic ideas, and his practical application of the same, were far more clearly defined than were those of his famous contemporary, Francis Bacon, who, according to his own confession, had been "puddering in physick" all his life. Raleigh's associations with our own unrestful Emerald Isle have necessarily conferred upon his memory a special interest for the curiously inquiring section of the denizens of this very specialized geographical source of a continuous stream of American immigration. Although he did take a transiently active part in the drastic therapeusis of Irish disaffection, we can never allow ourselves to forget that he introduced the soul-soothing *Virginian weed,* and the life supporting *pomme de terre,* to our native Hibernian soil. And as an original colonizer of the "new" trans-Atlantic territory which Providence had predestined to develop into the nursery and stronghold of the rights and privileges of enfranchized humanity, and the guardian home of its noblest civilization, the memory of the man who gave its name to the new born State of VIRGINIA can never lose its interest for the intelligent citizen of the

great Western Republic. Those of his actions which, to the judicially moral view of the present generation, must present aspects which cannot be viewed without the dutiful display of critical severity, were in most instances, the very natural—and even inevitable—products of an age of endless intrigue and hopelessly entangled morality. If he was instrumental in making the later life of Salisbury a prolonged martyrdom—although an impure one—it is worth remembering that the physical woes of that noble statesman were regarded by many of his contemporaries as a just judgment of Providence for his persistent and successful efforts to complete the ruin of Essex. His relations with his Royal mistress constituted an item of inevitable courtly routine in the days of absolute monarchic power and privilege, and beneath the sceptred sway of a more calculating and hypocritical Messalina, who recognized no restraint to her (attainable) desires, and had recourse to the masking vesture of crinoline for the purpose of concealing the consequences from the general view. And in conclusion, I will offer for the indulgent consideration of the reader, the personal opinion that bravery, wit, and appreciation of the healing art were never more happily combined by human speech than in the words of Walter Raleigh on the scaffold in the cold morning air of October 29, 1618, when, on feeling the edge of the axe with which his neck was about to be divided, he said with a dignified smile: "This gives me no fear. It is a sharp and fair medicine to cure me of all my diseases."

GYNECOLOGICAL HINTS.

A good lubricant for office gynecological practice is boric acid, one ounce, glycerine, one pint.—*Inter. Jour. of Surgery.*

TWICE WOUNDED BY RATTLESNAKES; RECOVERY.

BY

HOWARD CRUTCHER, M. D.,

Roswell, New Mexico.

In April, 1908, Manuel L., a Mexican herder, aged forty, while trying to rescue a young lamb from a rocky crevasse, felt a sharp pain in the tip of his left ring finger. After releasing the lamb the herder examined his finger, expecting to locate a fragment of thorn or other foreign body, meanwhile walking away from the scene of action. Within a few moments the pain increased and swelling was pronounced. Returning to the crevasse, examination revealed the presence of a twenty-inch rattler, which explained the mystery. Manuel called a companion, who corded the injured member above the wrist, and made superficial incisions into the injured finger Serious constitutional symptoms developing, the patient was placed in a wagon, hauled sixty miles to a railroad and brought to Roswell, arriving at my office sixty hours after the receipt of the injury. He appeared to be sluggish and indifferent. as if suffering from the effects of some narcotic drug. His left upper extremity was greatly swollen and painful. I made free incisions into the soft tissues from the wrist to the axilla and applied a saturated dressing of boric acid. Calomel and digitalis were given internally. Epsom salts were administered the second day of the treatment. Within two weeks recovery was complete.

During the month of November, 1910, this patient, while reaching around a cluster of sagebrush for a stick of kindling, was struck on the styloid process of the right ulna by a rattler measuring seventy inches. Both fangs entered, but the quantity of poison discharged must have been very small, for the subsequent disturbances, local and general, were very slight. The man ran half a mile and reported his condition to the manager, who made free incisions into the hand and forearm. The patient resumed his usual duties within a week.

An intelligent and trustworthy Indian, who has spent his life in the Southwest, tells me that one of his companions was struck

by a large rattler at a point about two inches below the angle of the lower jaw and died within five minutes. The venom must have entered the circulation through some large vessel to have produced such immediate results. The same informant has seen birds and small animals stung by rattlers and says that the effects in some cases are almost instantaneous.

Last October a large mule while drawing a load was struck by a small rattler in the foreleg. The owner of the animal shot the snake, but before the harness could be removed the mule was dead.

From all I am able to learn from old and trustworthy observers, there seems to be little if any difference in the virulence of a given quantity of the venom of the various sized rattlers, the result of a sting depending largely if not wholly upon the location of the wound, the rapidity of the absorption of the poison, and the vital resistance of the patient. In many instances the promptness and efficiency of the treatment will decide the issue.

To those interested in this subject I would recommend a study of Dr. Howard Kelly's *"Poisonous Snakes of North America,"* reprinted from *The Johns Hopkins Hospital Bulletin,* which is by far the simplest and ablest contribution in the English language.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Affections of the Beard.[1]—The main points in the diagnosis of diseases affecting the beard, says Adamson, may be summarized as follows:

Impetigo Contagiosa (streptococcic).—History of recent infection. Isolated stuck-on crusts. Absence of follicular pustules or deep-seated nodules. Often crusts of impetigo on other parts of face.

Sycosis Menti (staphylococcic).—A history of long duration—months or years. Extensive areas of follicular pustulation, either involving the whole of the chin and cheeks, or the upper lip (in connection with a nasal discharge). No ringworm invaded stumps.

Tinea Barbae (dry form).—Scaly rings and patches, with broken hair stumps or curled-up hairs. Sometimes smooth indurated nodules with broken stumps.

Tinea Barbae (pustulating form).—Scaly rings and deeply-seated, inflammatory, circumscribed nodules, or more widely inflammatory areas with follicular pustules, in which are found ground-glass like stumps, which show fungus under the microscope.

Tinea barbae never attacks the upper lip.

The Differential Diagnosis of Ectopic Gestation.[1]—Graham discusses the diagnosis of ectopic pregnancy as follows:

1. In early abortion, pain usually comes on gradually; it is felt from the back or loin, increases in severity until expulsion of the embryo is complete. There is general pelvic pressure and pain which is continuous. The flow is free, not tarry, and firm large clots are abundant, if the embryo is found that is conclusive evidence. Pelvic examinations show greater uterine changes, a softer more velvety mucous membrane than in ectopic gestation, but if a tumor, a pyosalpinx or a hydrosalpinx be present the difficulty may be so great that a surgical operation only clears up the case.

2. Purulent inflammatory conditions of the pelvis may give pain, missed periods, change in the uterus and a tumor of the tube, but there is no external hemorrhage, no collapse. However, pelvic inflammation gives by rectal touch that thickened boardlike feel that scarcely exists in ectopic gestation. At times the difficulties are so great one is pardoned when he makes only a surgical diagnosis. Then, too, the kind of pain is different in ectopic gestation, colicky and severe. It radiates into the bowel, shoots into the rectum, a sickening pressure which is rather infrequent in pelvic inflammation.

3. In twisted pedicle with its pain and internal hemorrhage, with its occasional external bleeding, shock and collapse one may be undecided. The history is usually one of more or less prolonged pelvic disturbance, with sudden acute peritonitis and frequent bowel obstruction. A tumor with a long pedicle when lifted above the pelvic brim is in danger of twisted pedicle. Hence, it is apt to follow pregnancy, difficult examinations or childbirth. The history of previous tumor will be of aid. These, together with the absence of change in the uterus, breasts, and in the mucous membrane, should help in diagnosis.

4. Gall-stones, ruptured gall-bladder, perforating ulcers of the stomach or duodenum and appendicitis all have symptoms in common

[1]H. G. Adamson, M. D., *The Hospital*, Feb. 4, 1911.

[1]Christopher Graham, B. S., M. D., Rochester, Minn, *N. Y. State Jour. of Med.*, April, 1911.

with extrauterine pregnancy, but the development of a careful history, and physical examination should leave few unmade diagnoses. In gall-stones the history of many spells of sharp epigastric pain, radiating to the back with pressure, gas, vomiting and sudden cessation of symptoms and return to perfect health, without menstrual disturbance will place the diagnosis.

In ulcer of the stomach and duodenum we get a history of periods of attack; during the period of attack, pain coming two to four hours after meals with gas, sour eructations, vomiting, all eased by food, to again return two to four hours after food, each meal, each day, during the period, repeating the same history of spells for years. If sudden pain and collapse appear the previous history will fix the diagnosis of perforation.

So, too, in appendicitis, general abdominal pain, tenderness at McBurney's point, location of tumor in iliac fossa, fever, history of repeated attacks of a day, a few days, or weeks with menstruation undisturbed and no indication of sudden anemia will make the differentiation.

TREATMENT.

Treatment of Diseases Affecting the Beard.[1] The treatment of impetigo contagiosa of the beard region, according to Adamson, is the same as for impetigo elsewhere. The crusts must be removed and a mild antiseptic applied to the exposed raw surfaces. The crusts are best removed by frequent bathing in warm water. A lotion of hydrarg. perchlor. 1 in 8,000 may then be mopped on, and afterwards a little ung. hydrarg. ammoniatæ (gr. x ad ʒj.) applied. In a few days the crusts will cease to form, and in a week the eruption will have disappeared, except for the stains, which eventually fade. It is important to treat these cases actively at the first, since a secondary staphylococcic follicular infection otherwise takes place, and an obstinate sycosis results.

Sycosis.—The old method of treating sycosis was by epilation and local antiseptics. This was a long and painful proceeding. Meanwhile the area was rubbed daily with a strong antiseptic ointment, oleate of mercury being a favorite application. By perseverance for long periods cures were eventually effected.

The more modern treatments of sycosis are by vaccines and by x-rays. A vaccine of the particular staphylococcus present is made from the cultures obtained from the pustules. A dose of 50,000,000 staphylococci is injected, and repeated at intervals of 10 days or a fortnight, *i. e.*, so long as the condition continues to improve. In some cases the lesions rapidly dry up after the first few injections.

[1]H. G. Adamson, M. D., *The Hospital*, Feb. 4, 1911.

The Treatment of Acute Otitis Media.[1]—The treatment of acute otitis media depends, says Husik, chiefly upon the severity of pain and appearance of drum membrane.

If in examining a patient complaining of pain in his ear, which has not kept him awake all of last night, the author finds a congested bulging membrane, tenderness to pressure in the mastoid region and in front of the ear, elevation in temperature, he treats him as follows: Spray nose and nasopharynx with weak Dobell's solution. With cotton applicator dipped in a solution containing cocaine 0.5 per cent., and antipyrine, one per cent., apply to congested turbinates and nasopharynx, followed by an oily application such as menthol, ten grains, camphor, ten grains, liquid petrolatum, one ounce. Syringe the ear gently with warm carbolic acid solution (1 in 100) dry, and apply five per cent. carbolized glycerin to congested membrane. Paint the mastoid region and front of ear with tincture of iodine, and give following instructions: Go to bed, take light diet, avoid smoking, take ¼ grain calomel every fifteen minutes until you have taken two grains, followed in two hours by a good size dose of epsom salt. Place hot water or hot salt bag to ear.

This treatment, if conscientiously carried out, is sufficient for any mild case of acute otitis media.

On the other hand, if on examining a patient complaining of severe pain in his ear which has kept him awake all last night, the writer finds a congested bulging membrane, with obliteration of all landmarks, extreme tenderness in mastoid region, he does a paracentesis as follows: Syringe the ear gently with warm carbolic acid solution (1 in 100), dry, apply ten per cent. carbolized glycerin to membrane and canal, both for its antiseptic and anesthetic effect. With a sharp pointed, sterile paracentesis knife passed through an ear speculum, make an incision from below upward in the posterior inferior quadrant (generally most bulging) of the membrane, remove the speculum, and introduce a small piece of sterile cotton. Paint the mastoid region and front of ear with tincture of iodine, and give same instructions as mentioned in the treatment of a mild case. In from twelve to twenty-four hours, the patient will be greatly relieved.

The discharging ear which follows should, under careful attention to cleanliness, clear up in from ten to fourteen days. Very rarely infection from an acute otitis media will travel to the mastoid cells and antrum, recognized by increased bulging in the posterior superior quadrant of the membrane, increased swelling in the mastoid region especially tip, sometimes high temperature, rarely pain and tenderness when swelling in the mastoid region is established. Under careful watching, even these cases can sometimes be cured by rest in bed, purgation, light diet, counterirritations, hot ap-

[1]D. N. Husik, M. D., Philadelphia, *N. Y. Med. Jour.*, April 1, 1911.

plications, and the establishment of free drainage by incision into the membrane. Whenever it is impossible to establish free drainage, these patients require mastoid operation, clearing out of the antrum and cells.

The treatment in children is the same as in adults; removal of all adenoids and diseased tonsils in children subject to recurrent attacks of acute otitis media is advised.

The after treatment in all these cases is careful attention to nose and throat, and gentle politzerization for the slight deafness and tinnitus.

The Treatment of Whooping Cough.[1]—After making a diagnosis, Henriquez orders a fluid diet and prescribes:

℞ Compound syrup of squill.....3iii
Compound syrup of cocillana.....ʒiv

Dose to be regulated according to age as follows: From one to two years, fifteen drops; from two to three years, twenty-five drops; from three to four years, forty drops; over four years, teaspoonful; dose to be repeated every four hours.

This treatment will result in a cure in the severest case, in from four to twenty-one days. In every one of the author's cases the paroxysms were reduced in number from the first day, and by the end of the first week, were either from three to six hours apart or had entirely ceased. Vomiting is rare after the first week and bad nights the exception. The paroxysms during this time are easily borne by the child, and in the great majority of cases the child will not be frightened at its approach, but keep right on with its play.

In three cases the whoops ceased entirely after the first dose and the disease was completely aborted. In six cases the writer obtained a complete cure in one week; in another case complicated with bronchopneumonia the paroxysms were reduced from one every twenty minutes to every five hours, a cure resulted in twelve days. Nine stubborn cases resisted treatment, and he had to gradually increase the dose until he had doubled the original dose, and cures resulted in from sixteen to twenty-one days. In all the other cases, ranging in ages from one to sixty-five, the disease ran a comparatively mild course after the first week, and in none were there any of the complications which usually go with this disease.

Each patient demands constant watching, and the dose must be increased or diminished according to the symptoms. In not one of the cases which Henriquez has treated directly or indirectly during the last two years were there any bad effects produced by the drugs used; and although the doses may seem large to some it is absolutely essential in a severe attack to push it to the limit.

One word in regard to the drugs used in this mixture. After trying syrup of cocillana alone, and although it produced marked results, still, by the gradual addition of the compound syrup of squill up to three drachms, the most perfect results were obtained.

[1]C. L. Henriquez, M. D., *N. Y. Med. Jour.*, April 1, 1911.

HYGIENE AND DIETETICS.

The Evils of Mouth Breathing.[1]—At night the mouth breather is restless and suffers with disturbed sleep. His head is thrown back, due to the relaxation and shortening of the lower jaw muscles and the tension of the extensors at the nape of the neck. For this reason the mouth remains open in spite of cloth or leather jaw supports which are frequently used to overcome mouth breathing at night. Besides the increased drag on the lower jaw, there is also added the disturbed circulation of the head due to its retroflexed condition.

Mouth breathing is due to several causes, but in most instances it is purely a habit. In the case of a nasal obstruction the amount of air possible to be drawn through the nose may be entirely inadequate, and mouth breathing becomes a necessity until the obstruction is removed. In other cases it occurs in constitutions in which the muscle tonus has been lowered in various parts of the body, resulting in relaxed and flabby muscles and ligaments. When this occurs in muscles supporting the lower jaw (the temporals, masseters, and pterygoids), the jaw drops and mouth breathing occurs and becomes a habit. The relaxed lower jaw muscles remain shortened, the reduced traction on the bone itself producing the small mandible and receding chin. The drawn skin of the cheeks, produced by the dropping of the jaw, presses on the superior alveolar process, and this, added to the vaulted palate, is a second factor, producing the contracted alveolar process and irregularity of the teeth.

Hence, the immense importance of unrelaxed effort on the part of physician, and especially parents, to induce children from infancy up to keep the mouth closed and make every effort to breathe through the nose, even if obstruction exists in the form of temporary swelling of the nasal membrane or permanent obstruction.

Breathe through the nose, and the air pressure will prevent the excessive growth of adenoid tissue. Remove adenoid growths if they form an obstruction, but if nasal breathing is not persisted in after their removal the excess of adenoid growth will again take place.

Besides repeated remonstrance on the part of physician, teacher, and parents, or others in the home, nasal breathing can be enforced during sleep by closing the lips by means of skin plaster. When this is done sleep is more peaceful and the head rests in its normal position. The child accustomed to the

[1]A. E. Schmitt, M. D., *N. Y. Med. Jour.*, April 15, 1911.

sensation of nasal breathing at night can be so much more readily prevailed upon to persist in nasal breathing throughout the day. So, also, much of the harm done by neglect during the waking hours can be mitigated by the normal breathing during sleep.

Not only can all the ill effects of mouth breathing be prevented, but after they have existed a number of years they can be corrected by the changed mode of breathing, i. e., normal nasal breathing. The oftentimes hideous physiognomy of the former can be remodeled and changed into a normal, sometimes even a handsome type, if the error is corrected before the firmer bones have hardened to too great a degree.

Diphtheria Carriers.[1]—Macdonald summarizes his investigations as follows: 1. Carriers are found at all ages and of either sex. 2. The previous carrier period cannot be ascertained, but may in some cases be inferred. 3. Nor can it be said in many cases that one case was derived from another—that is, the carrier found may have given the disease to those around, or may only have just received it. 4. The presence or absence of an obvious pathological condition is no criterion of the fact of a carrier, of the length of carrier life, or of virulence. 5. The length of carrier life seems to have no effect on virulence; bacilli have been demonstrated to be virulent after four and eight months in the ear and nose of different individuals. 6. Carriers are found amongst those most intimately associated with other carriers or cases; at home between mother (nurse) and child, and child and child who play together; at school the carriers found are few and always closely associated (in play and not necessarily in schoolroom proximity) with some other carrier or case. 7. The control of diphtheria depends (assuming control of the case) on the control of the carrier. 8. The carrier should be notified as a case of diphtheria, no matter of what age or sex, and due quarantine and observation should be maintained until satisfactory demonstration of the disappearance of the bacillus diphtheriæ. 9. As everything points to the conclusion that the bacillus diphtheriæ is essentially a human parasite (a saprophytic existence is not evident; the transference from animal to human is at any rate rare, and many cases of apparent transport by milk and other agencies are manifestly from human contact), a determined attack on the lines of thorough bacteriological investigation should have no difficulty in stamping out diphtheria altogether from the land. 10. Evidence points also to the slow, inevitable, mechanical distribution of the disease which persists endemic in the undiscovered carriers. Epidemicity depends entirely upon the number and nature of the carriers; the headway that has been attained before preventive measures have been effectively used, and upon various sociological factors more or less under the control of the authorities. The invocation of miracle, of meteorological factors local and universal, of special intensity of the virus, *et omne ignotum*, which is the commonplace of authority today, might surely give way to the recognition of simple, natural, open eye causation.

[1]A. G. Macdonald, M. D., *Lancet*, London, March 25, 1911.

The Dietetic Management of Obesity.[1]—The causes of obesity may, according to Milligan, be summed up under the following heads: 1. The habit of overeating, especially as regards foods rich in starchy and saccharine matters. 2. Too little exercise. 3. The habitual use of alcoholic beverages (beer, ale, and sweet wines) which delay metabolism.

While it is true that fat may be synthesized from all classes of foodstuffs, the carbohydrates and fats must be looked to as the chief source of supply.

The most important factor in the reduction of obesity is a diminution in the gross amount of aliment and a rearrangement of its constituents. Care should be exercised not to cause the patient too great discomfort. The diet must be sufficient to maintain health and strength. Let the physician interrogate the person as to the character and quantity of the food and the frequency with which it is taken. It may be put down as a principle that the carbohydrates are to be very much reduced. The copious ingestion of liquids, even water, must be interdicted. A small cup of unsweetened tea or coffee or a glass of skimmed milk may be taken with the meals. Alcoholic beverages especially should be forbidden. Even so harmless a diluent as water should not be taken in quantities that exceed forty or forty-five ounces in the twenty-four hours.

The following dietary plan, though admittedly low in calories, may be used with good effect on persons who are obese without being anæmic.

Breakfast.—Two slices of bread or toast with butter, a boiled egg, and a cup of tea or coffee unsweetened.

Dinner.—Mutton chop or small beefsteak, one baked potato, small saucer of peas, two slices of unbuttered bread, an apple or its equivalent, and a glass of skimmed milk.

Supper.—A slice of cold ham or beef, several lettuce leaves, a few slices of tomatoes, small saucer of prunes or its equivalent, and a cup of unsweetened tea or coffee with two slices of bread unbuttered.

Stated in general terms, the diet for the twenty-four hours should not exceed the following proportions: 200 grammes of bread (about half a loaf); 350 grammes of lean meat or proteid; 250 grammes of vegetables and salads; 1,500 c.c. of water (about five glasses).

[1]E. T. Milligan, M. D., Detroit, *New York Med. Jour.*, March 4, 1911.

Another factor in the reduction of obesity, almost, if not quite as important as the first, is exercise. Of calisthenic systems there is no end, suffice to say that the exertion should be severe enough to cause perspiration. While all these systems have their place and, in a manner at least, accomplish their purpose, there is to my mind no system of exercise for keeping down weight comparable to vigorous walking alternating with short runs. If every individual could do his eight miles a day in the manner indicated excessive corpulency would soon become as rare as it is now common. I reduced my own weight twenty-two pounds in six weeks' time by a daily walk of ten miles, interrupted from time to time by short, slow runs. The noticeable feature of the performance was that I did not find it necessary to do any dieting whatever.

Let us impress upon the obese person that, if he sincerely desires it, he has within his own grasp the means of ameliorating his condition. Let him, whenever possible, discard all means of locomotion save that provided by his own limbs. His *superfluum alimenti* will gradually diminish in bulk, and the habit of exercise once acquired is apt to be carried through life. *Probatur ambulando.*

Fruit and Drink in Typhoid.[1]—The best form in which to give fruit in a case of typhoid fever is grapes, the skin and the stones being very carefully removed. One way in which fruit is particularly of use is in warding off an attack of scurvy, which may often appear at the end of a bad and a long case of typhoid fever, the first signs of its appearance usually being seen in the sponginess of the gums. In connection with drink it must be remembered that patients are usually very thirsty and, as their temperatures are high, they lose a large amount of water by the skin, and it is, therefore, well to give them plenty to drink. There is no reason why they should not have pure water, and this may be iced if required. The juice of oranges or lemons may also be given. Barley water is good and is often flavoured with lemon, and they can have lemonade made of lemon water, sweetened with a little sugar if they should prefer it. "Imperial" drink, often flavoured with lemon, is a very good thing to give; but, if extra nourishment is necessary and the thirst excessive, albumen water is, perhaps, the best—that is, water to which the white of an egg has been added, the mixture being strained and well shaken up. It can be made in many strengths, if the patient likes it; in the proportions of the white of one egg to one pint of water, or, if a concentrated form is required, the white of one egg mixed with an equal quantity of water. Milk may be flavoured with tea or coffee or even cocoa. Iced coffee and iced tea are also given, and some patients like them very much indeed. They do no harm but, of course, neither the tea nor the coffee acts as a food.

[1] *The Practitioner*, London, February, 1911.

Potatoes in the Dietary of Diabetic Patients.[1] At a meeting of the Société Médicale des Hôpitaux held on Feb. 17th, M. Rathery said that it was an error to suppose that potatoes were an article of diet permissible to diabetic patients; he considered, on the contrary, that they ought never to be freely permitted in such cases. He quoted a number of clinical observations showing, on the one hand, that even such very small quantities of potatoes as 50 grammes might suffice to cause a reappearance of sugar in the urine, and, on the other hand, that diabetic patients did not by any means always assimilate the carbohydrates of potatoes more easily than those of other starchy foods; they sometimes even assimilated them less easily. Speaking generally, it might be said that in the majority of cases of diabetes potatoes were to be considered as an article of food similar to other dietetic substances rich in carbohydrates. In some cases, however, potatoes seemed to possess special properties of assimilation which might be either greater or less than those of other starchy foods. This was in fact a particular example of the law discovered by Bouchardat, according to which each diabetic patient had a personal coefficient for the quantitative and qualitative utilization of carbohydrates.

A Method for the Bacteriological Standardization of Disinfectants.[2]—The growing importance of establishing standards for determining the relative efficiency of different antiseptics is being appreciated by sanitary workers, with the result that a great deal of valuable research work is being done. The following represents some conclusions by Anderson and McClintic:

1. The deodorizing power of a disinfectant is often taken as an index of its germicidal efficiency. This gives rise to a sense of false security. The authors describe the various methods of bacteriological standardization of disinfectants, the best of which are fundamentally the same. This method consists of a comparison with the efficiency of carbolic acid, from point of view both of time and dilution. The authors have introduced various modifications of what they consider the best method. It is essential to have

(1) Cultures exposed to a uniform temperature.

(2) Cultures measured carefully and with uniformity.

(3) Subcultures prepared from measured amount of exposed fluid.

(4) Subcultures prepared on most suitable media. The coefficient is the mean between the strength and the time coefficients; i. e., the figure representing the degree of dilution of the weakest strength of the disinfectant that kills within two and one-half minutes is

[1] *The Lancet*, March 11, 1911.

[2] Drs. Anderson and McClintic, *Journal of Infectious Diseases*, Jan. 3, 1911.

divided by the figure representing the degree of dilution of the weakest strength of the phenol control that kills within the same time. The same is done for the weakest strength that kills in fifteen minutes. The mean of the two is the coefficient.

From this can be determined the cost per unit of efficiency, the knowledge of which would be of great aid in practice.

THERAPEUTIC NOTES.

Drugs Which Color the Urine.—It is not uncommon for the physician, though he be skilled in urinalysis, to be puzzled with certain changes in color and in reactions occurring in the urine of patients who have been taking some of the newer drugs. In such cases the pharmacist should be ready, says the *Practical Druggist*, to advise the medical man. To do so, however, he must possess considerable knowledge of the effects of such drugs as sulphonal, etc., on the urine.

A number of the newer drugs color the urine as though it contained blood. Among these are sulphonal and pyramidon. Others give it a blackish or smoky color—among them being carbolic acid and many derivatives of benzol. Still another group of drugs causes a greenish or yellowish discoloration in the urine, which might be mistaken for bile. Among these are bromoform, thallin, naphthol, santonin, buckthorn, cascara sagrada, rhubarb and senna.

Some "Don'ts" in the Use of Salvarsan.[1]—Schamberg and Ginsberg give the following "Don'ts" in the use of salvarsan: 1. Do not use salvarsan in myocarditis, in advanced cases of tabes dorsalis and general paresis, in nerve syphilis affecting vital centres, in grave kidney disease, in cachectic and debilitated persons (unless the condition is due to syphilis), in aneurysm, in optic neuritis, and in persons with lesions (such as gastric ulcer) in whom increased blood pressure may produce hemorrhage. 2. Do not use intravenous injections of salvarsan until you have fully qualified yourself and possess a detailed knowledge of the technique. Deaths have occurred and more will occur from unskilful administration. 3. In the preparation of the drug for intravenous use, do not use a solution made with common salt or undistilled water (such as is often supplied in hospitals), but use a specially prepared, sterile, physiological salt solution made with chemically pure sodium chloride; otherwise you may find it impossible to obtain a clear solution. 4. Do not under any circumstance inject into the veins, a solution which is not perfectly clear: a flocculent or cloudy liquid may produce alarming symptoms of collapse or even death. 5. Do not use a solution any more alkaline than is absolutely necessary to secure a clear solution. 6. Do not inject the salvarsan into the veins without previously running in physiological salt solution; if the needle is not in the vein you will infiltrate the surrounding tissue with the salvarsan solution and cause subsequent inflammation and unnecessary pain. 7. Do not infuse the solution into the vein too rapidly; it is best to have a needle of such a calibre as will require eight minutes to introduce 200 c.c. of fluid. With the gravity apparatus, the rapidity of inflow can also be governed by the height of the receptacle. 8. Do not infuse a cold solution; the liquid should be about the temperature of the blood. 9. Do not use "glass pearls" in the mixing jar, as is often recommended; minute particles of glass will chip off and might cause embolism. 10. Do not use a routine dose of the drug; the dose should be gauged according to the weight of the patient and the character of the condition to be treated. 11. Do not employ intravenous injection in your office or in a dispensary. The patient should be treated in a hospital and put to bed and carefully observed for a period of not less than three days. 12. Do not persist in the intravenous injection if the patient should show signs of collapse during the administration, but stop at once.

[1] J. F. Schamberg, M. D., and Nate Ginsberg, M. D., *Jour. A. M. A.*, Feb. 4, 1910.

GENERAL TOPICS.

Up-to-Date Murder.[1]—It is interesting to note how the modern criminal avails himself of the various resources of up-to-date science. The modern burglar, for instance, goes into action armed with implements that might grace a laboratory of physics, the while they are armed with automatic firearms of the very latest pattern of destructiveness. As to murder, the use of hyoscin by a pseudo-medical man in a recent notorious London crime affords a good illustration of the application of advanced modern pharmacology to nefarious ends. No less extraordinary, in its way, is the case of a medical man just reported from Russia. At a murder trial last week he confessed that he killed a victim by the injection of diphtheria "toxin" into the thigh. His first intention was to administer cholera germs on bread and butter, hidden under caviare, but on reflection it seemed that the first-mentioned agent would be less capable of detection. He was acting in common with other confederates who appear to have been influenced by the sordid motives usual amongst criminals of that kind. When one comes to think of it, murder by microbes would constitute a most deadly method, in many cases difficult of detection and still more so of proof. Yet it is reassuring to reflect that murders of a most ingenious and obscure nature are often dragged into the light of day.

[1] *Med. Press and Circular*, Feb. 8, 1911.

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The failing water supply of New York presents the gravest problem confronting the citizens of this great city. For a long time the local rainfall has been far under the average, with the result that the Croton watershed has failed to supply the amount of water needed to meet the enormous daily demands and at the same time maintain a safe reserve. For the first time in years the people of New York City are facing a real water famine. Unquestionably not one person out of five hundred appreciates the situation or realizes the gravity of a marked curtailment and possible complete exhaustion of the New York City water supply. When the fact is considered, however, that the summer season is at hand with the reservoirs holding less than one-half of the reserve supply that was actually needed to meet the requirements of last summer, the seriousness of affairs becomes impressive. The most startling detail rests in the practical impossibility of the situation being changed sufficiently by even an unusual rainfall during the next few months to restore the reserve to a point of safety. At the present time the reserve has been given conservatively as 52,000,000,000 gallons. The quantity ordinarily on hand at this time of the year has rarely fallen below 104,000,000,000. Last season (1910) the reserve was depleted about 72,000,000,000 gallons. The poorest of mathematicians can grasp the problem, while it takes no weather scientist to realize the futility of hoping—much less anticipating—that any rainfall will augment the present reserve by 20,000,000,000 gallons or more. What can be done? Fortunately the present water commissioner gives every evidence of efficiency and while some criticisms have been heard, such as questioning the wisdom of the policy of lowering the Croton reservoir before drawing upon the supply in the upper reservoirs, in the main the situation has been handled in a way to excite the most hearty commendation. It is a matter for genuine satisfaction that a problem so momentous with so many angles and points to consider carefully, is receiving the attention and study of an official so conscientious and capable. His staff it would appear is thoroughly equipped from engineering standpoints and the citizens of New York City may rest secure in the way that this difficult proposition will be met. Already through the strenuous work of inspectors and the inauguration of the most stringent restrictive measures throughout the city a saving of approximately 18,000,000 gallons daily has been made. By ferreting out leaky faucets in tenements, stores and apartments a still greater saving is certain, and an increased corps of inspectors has been authorized by the aldermen. But the utmost sav-

ing that can be made will be at best pitifully small as compared with an almost certain deficiency of several billion gallons. As the *Engineering News*, an authority whose views on this and similar matters command respect, has pointed out, a supplementary supply has surely to be obtained. Ten Mile Run, a river running into Connecticut, has been suggested but Commissioner Thompson has pointed out several objections to tapping this supply. But something has to be done and right away, or before we know it New York City will be in the sorriest plight it or any other civilized community has ever been in, without the excuse of some great calamity such as an earthquake or the like. Every day is fraught with moment and brings almost certain catastrophe closer and closer. Never was delay more dangerous or liable to result more disastrously to more people.

A water famine means distress, disease and death. This is not intended to be sensational. But an ample water supply is one of the fundamental essentials to community dwelling. The people of New York have had such an abundance of fine water, and the quantity available to each individual has been so far beyond each one's needs that never a thought has been given to exhaustion of the supply. Even now after all the warnings sounded in the daily press, the average person does not grasp the impending danger of a water famine. There is, of course, certain reason for this in the fact that the individual in New York as well as in other cities has nothing to do with and knows practically nothing about the water supply. Those who have the matter in charge attend to the details, and the average individual looks upon the water he uses very much as he does upon the air he breathes.

But the present menace must be given more attention than simply that of the officials. Every dweller or visitor to New York as a matter of honor should use just as little water as possible and exercise every vigilance to minimize waste. From all that we have been able to learn, and the situation has been carefully considered, it would seem that tapping Ten Mile Run offers the most feasible means of obtaining a sufficient amount of good water to meet the city needs until the Catskill supply is available. The obstacles confronting Commissioner Thompson can assuredly be overcome, probably more easily and in shorter time than those in the way of securing a temporary supply from any other source. In all earnestness, therefore, and without the slightest hysteria or sensationalism we urge the Mayor and Commissioner Thompson *to take steps at once* to obtain a supplementary supply of potable water that will place the city's reserve on a safe basis. If the Ten Mile Run seems best, do not delay. If some other source is preferable and more apt to prove satisfactory, use that. *But the all important detail is to get to work at once.* Every day, every hour is precious to decrease the growing menace of not only inconvenience and physical suffering, but of pestilence and conflagration.

Water in many respects is the most effective protection the human family have against the germs of disease. This is more so in cities or thickly inhabited communities than in the open or sparsely settled places. The conditions under which people live in crowded settlements, the increased waste material, the greater opportunities for the growth and dissemination

of microorganisms, and numerous other factors, all make cleanliness more essential to the city than the country dweller. Water in an actual as well as a relative sense is the most useful antiseptic measure known. It is perhaps even more serviceable as an aseptic agent and its free use is the most effective preventive of disease at the command of mankind. The mental picture that is conjured by knowledge of the local water shrinkage is not a pretty or pleasant one. In fact it is so fearful that one cannot help but feel a great and growing alarm at just the prospects of epidemic—to say nothing of the increased liability to fire and enormous property loss.

The officials of New York from the mayor down have a constant array of problems. Public, pulpit, private and publication clamor constantly assails their ears however faithfully they may be striving to solve each and every problem in the shortest possible time and the best possible way. It is not our intention to increase the burden of those who have the actual work to do and the responsibilities to bear. Our motives rather are to encourage and support earnest efforts to relieve a situation that is so serious. We believe we can state that the city officials may count on the good will and co-operation of the local medical profession. Medical men realize what the results of a water famine will be and should the situation reach a point where the mayor and his water commissioner need moral as well as professional support in establishing any regime, or method to mitigate developing conditions, the medical profession to a man can be counted on. It is entirely unnecessary to state that we are looking ahead, and while one never crosses a bridge until he comes to it, it is always good judgment to know where and how.

Senator Owen's bill for a National Department of Health has been introduced again with perhaps better prospects than ever before for its ultimate passage. The bill has been modified or changed in certain respects with the apparent object of removing whatever grounds there were for criticism in its original form. We very much fear that Senator Owen has made too great concessions, at least in two very important details, and as a consequence will fail to receive as enthusiastic and whole souled support from the medical profession as his measure and efforts really deserve. In brief, these two defects that are liable to cool medical enthusiasm are, *first*, failure of the bill to make the head of the proposed Department a Cabinet official. Thus at the very outset the new Department will be little more than a Bureau. To handicap and injure such an important movement by denying it equal standing with commerce and labor or farm problems, will surely lower its prestige, minimize its importance in the minds of the people, and have a great tendency to impair at least its early efficiency. The *second* and most objectionable defect of the bill is that it fails to require that the "Director" shall be a qualified sanitarian or medical man. The fact that there is an express requirement that the "assistant" to the Director must be "a skilled sanitarian" leaves no doubt that a layman—essentially a politician—is expected to head the proposed "Department." Elsewhere we have referred to the common lay opinion that to give medical men power tends to create a close medical corporation with no other

than selfish motives. Nothing in the whole history of the medical profession warrants this ridiculous idea and one has only to consider the conspicuous benefits that have always accrued to the people from placing capable physicians in high office to see how ill founded it is. Major-General Wood, Adjutant-General Ainsworth and several others in and out of the U. S. Army have demonstrated the advantages of utilizing the administrative ability of trained medical men, while the conspicuous success of Colonel Gorgas, General Walter Wyman, Lt.-Col. Woodruff and many others have shown what may be expected when physicians of such calibre are given executive authority. Col. Gorgas' work at Havana and Panama, Gen. Wyman's skill in directing our splendid Marine Hospital Service and, to give a single specific illustration, Lt.-Col. Woodruff's results at the Jamestown Exposition are all eloquent of the administrative as well as sanitary services that capable physicians render when opportunities arise. To give a layman whose only claim to recognition may be his political activity and influence, absolute authority in the direction of a Department of Health with its many technical problems, over that of the "skilled sanitarian" who at best is to be only an "assistant," will be a colossal mistake, and lead, we very much fear, to the defeat of many of the laudable objects of Senator Owen's otherwise excellent bill.

The medical profession should support this bill, however, even though it has the shortcomings enumerated. It is a start in the right direction and while the "Department" is liable to fall short of the possibilities it could achieve with a medical Director at its head holding Cabinet rank, it ought to demonstrate in a few months the wonderful good it can do. Never was the time riper for the inauguration of a National Department of Health and never was it needed more. The average layman has hardly an inkling of the marvelous possibilities of preventive medicine. All that is needed is an effective organization with sufficient authority to take advantage of the wealth of present day knowledge of sanitation and disease—modern prophylaxis, to banish at least four diseases and greatly reduce the ravages of several others. Countless other benefits would promptly follow and the attention paid to child hygiene, sanitation, statistics, special research, the manufacture of drugs and foods, occupational sanitation, and so on would soon elevate the standards of home, school, factory and personal hygiene, rendering these influences infinitely more effective in promoting health, happiness and general prosperity. In its many details, its inclusion of essentialities, its harmony with modern medicine, and its general construction and arrangement, Senator Owen's bill is admirable. It shows a broad and comprehensive grasp of the problem and an appreciation of the potentialities of preventive medicine that should gratify every earnest physician, and impress him anew with his personal as well as professional responsibilities to his fellow men. Active, forceful support of this bill, which lacking though it may be in certain respects comes nearer to meeting the "needs of the hour" than any measure thus far introduced, would seem to be an obligation that no conscientious physician, or earnest organization can afford to neglect.

A legal definition of unprofessional conduct is sadly needed, for though the code of ethics tells what is theoretically right or wrong, yet when we come to apply it to specific acts we find various interpretations. The matter is becoming of vital practical importance now that licensing boards are being given power to disbar wrong-doers for unprofessional conduct. The accused immediately appeals to law, generally through a writ of injunction, and the burden of proof is on the accusers who must convince laymen. We are thus put to a disadvantage which the clergy and bar do not experience, for their juries, to decide upon unfrocking the priest or disbarring the lawyer, are wholly professionals who can ignore lay opinions. These professions are thoroughly organized and like all other organisms must have power to cast out the anti-social black sheep which appear in every group. The medical profession, on the other hand, is far from being an organized body and may never reach that condition for its work is so largely individualistic that its members are often antagonists instead of mutual helpers. There is also a curious but widespread lay opinion that to give physicians the same powers possessed by the bar, creates a medical corporation inimical to public welfare. People claim the right to be treated by any quack they please to call in, and actually demand that the "freedom" of such wrong-doers shall not be infringed. It is therefore highly necessary to create a counter lay opinion that public policy demands the restriction of our right to injure ourselves by the unprofessional means of evil-doers—medical, legal or theological.

The dangers of too much liberty should be self-evident, but unfortunately they are not, for we are desperately afraid of official tyranny. Moreover it is a sad fact that our short professional history does show almost malignant persecution of the men who have made discoveries which prove old methods to be wrong or inefficient. The welfare of mankind demanded religious liberty and it is now becoming universal even in places where death was formerly the penalty for having views different from the established church. It is well therefore that a physician with a new idea should not be hampered by the fear of ostracism and professional death. A clergyman can leave his church and join another or form a new one, and a physician can cut loose from orthodoxy, but in each case he must not injure anyone. We are therefore compelled to submit to the presence of black sheep until we can prove fraud or other harm to the individual or society. It seems then that, for the present, we must abandon the absurd efforts to make all physicians think alike, and confine our legal definitions of unprofessional conduct to well-recognized misdemeanors and crimes committed in a professional capacity. We generally recognize the justice of a lawyer's disbarment and our disbarment of physicians must be equally just to the mind of a lawyer.

The problem of our black sheep is therefore much more complicated than the reformers think, but there is no cause for despair. When our profession is as old as the legal one, we too will have no difficulty in excluding the unprofessional but we must remember that both the bar and church are still compelled to tolerate members whose conduct is far from perfect, both ethically and professionally. Progress must be slow, and we must trust to the

good sense of laymen to support us in eliminating our worst. Besides all this, extraordinary absurdity in a doctor is generally recognized as a personality which is not blamed on the profession at all. Every now and then our attention is called to a newspaper item of some remarkable opinion of a doctor, and in all reason we must say that the press is only fulfilling its function in giving us news of the remarkable and exceptional. We won't read the commonplace, and moreover we often find vital medical news in the lay press first, while the exact scientific details come later in the professional. But on investigation the absurdities are generally if not always evidence of mental abnormality as in a case in Connecticut a few years ago, of an eclectic physician aged 80, who did not graduate until he was 55 nor get a license until 66. No wonder he talked of beneficent invisible gnomes of the air and the absurdity of the germ origin of disease! He was in his second childhood—if he ever got out of his first. As for those regularly educated and licensed physicians who adopt quackery and deliberately advertise the impossible, offer untrue testimonials and give free trial bottles, the present organization seems fully competent to deal with them under the general laws. Any court would uphold revocation of license in such cases—if the judge himself has sense and does not make mountains of tiny technicalities.

The family's duty to its sick and insane has not yet been altered a particle by the growth of the socialistic view that the costs should be defrayed from taxes upon all. Under existing law the courts are deciding that the patient's family if able must pay the charges, at least for his medicine and maintenance, and the law is not liable to be changed until the majority of us are socialists to this extent. There is no doubt of course of the rapid growth of the new idea that the sick are public charges, and we have frequently commented upon the increasing number of articles from observing physicians who predict a time when most practitioners will be public salaried servants like teachers. Though all this may be true, and though time may evolve men with such a lack of filial or paternal affection as to abandon sick sons or parents to the care of strangers, we are far from that state now. The family is still the basis of society and will be for a very very long time, so that anything which injures family solidarity seems to injure the individual and the race. A man must be normally injured if he allows his grandparents to become paupers, and we hope the courts for his own good will compel him to do his duty or be considered a grafter fit for punishment. We cannot hasten our evolution but we can prevent decay due to premature socialism.

The sick require individual care and not wholesale, by groups. The attempt to raise tiny babies in asylums has dismally failed because each infant requires practically the whole undivided attention of one person. The race has evolved because of the survival of brainy variations requiring a long feeble infancy for brain growth, and this individual care in the family is a necessity without which man will disappear. The same rule largely applies to the sick, that is, the ability to give the sick care, grew up with the necessity for it, and as a matter of fact experience shows far better results where each receives practically the undivided care of a nurse, though of course a

modern hospital is so far superior as a habitation for the poor that the results of their collective treatment are better than home care. Here too, the ability to cure is progressing with the necessity to save the sick. The present point to consider is whether this money shall not be considered a loan to be repaid by the family or by the man himself after recovery. There are too many unemployed waiting for jobs to make it necessary to save the sick for their social value alone, and the man should pay for the favor of being restored to usefulness in a crowded life where his death is a benefit to those waiting for his job. There are reasons, of course, which make it incumbent upon us to save every life we can, excepting only those who deliberately do murder; but these reasons are wholly selfish when properly analyzed. The man is saved not for himself but for the good his saving does others. We ourselves are thus insured in our own lives.

The public advantages of public treatment of the sick are then the real reasons why such methods are spreading. The recent advances in pathology are also showing that disease is almost always contracted from a germ carrier. We are destined to see the time when the infected are more carefully segregated than the smallpox cases, which no vaccinated man need fear. Of course the public must pay for this benefit, but that does not alter the reverse fact that the patient must also pay for the benefit he receives. He has not a natural right to throw himself on society for support at any time, and we hope the courts will continue to decide that if he cannot pay, his nearest relatives must. We should not allow public necessity to increase pauperism as so many free dispensaries and hospitals are now doing. The present expenses are inordinate and moreover they are falling on the healthy poor in the manner of all other taxes yet devised. There is a widespread delusion that the poor do not pay the taxes from which they receive public aid, but as a matter of fact they do in the increased costs of living. It is this very expense which deters legislators from making appropriations for greatly needed institutions, but that objection will disappear if every man in every hospital is considered a pay patient. Present day charity is carried to such extremes that it is defeating its own purpose, and in addition is increasing pauperism in spite of the most strenuous efforts to end it. Let the doctors be on salary if you will, but make the patients pay the public which foots the bills, and not force the well to pay for the sick. If every helpless pauper is investigated surely in the vast majority of cases a near relative could be found whose duty it is to pay the charges. We are now finding it better to charge for public water a house uses, and why not for public medicine?

The maintenance of criminals is another public charge which occidental races assume for their own protection, but in some oriental nations, the family is responsible for the misdeeds of its members—a vestige of the primitive partriarchal form of government in which family survival demanded such solidarity that the head of the family had the power of life and death over all its members. Even yet, here and there, we find the family compelled to pay back what is stolen by a member or pay for damages, or even have one member executed for murder done by another. Modern society has taken over all these family duties and rights, so that the family as a so-

cial power does not exist, and an antisocial member is simply cast out and disowned instead of being disciplined. The family will however combine to protect an erring member from the just treatment of society, consequently it is well to consider the practicability of restoring some of a family's responsibilities, and whether it is possible to make it pay for a criminal member's maintenance, and the damage he inflicted. A revolutionary idea—even bizarre—but the fearful expenses of courts and jails come out of the pockets of the moral poor, and are getting to be well nigh intolerable. Some kind of a revolution is called for and every remedy will be bizarre at first. Besides all this, the idea of punishment is reformation to save future costs, but is it bizarre to ask the reformed man or his family to pay for his cure? Society gets only part of the benefit and pays for all.

Diagnosis at health resorts is periodically criticised in severe language, and where there is so much smoke there must be fire. The worst culprits seem to be those whom we would presume to be impeccable—if not infallible—the centuries old "cure-alls" of Europe. They have hordes of physicians who have specialized on diagnosis, and the methods are presumed to be the results of generations of experience backed up with all modern means of examination. Yet we still hear bitter complaints that cases are wrongly diagnosed. Of course, the patients come with strange infections from every part of the world, and it is impossible for any one physician to keep in touch with the local peculiarities of every nook and corner of the globe. Some oversights are inevitable, but granting all that, there are accusations that universal diseases are not recognized, and that the patient comes away with a very false idea of his condition and prospects of life. If all these are facts, they must throw considerable doubt upon the statistics published as to the results in certain diseases.

The benefit of health resorts cannot well be doubted, but the reasons given by local physicians cannot be reasonably accepted if they do not know what they are treating. A patient with unrecognized cancer may improve in his general condition, while the disease is progressing. So many such cases have come to light, there is a growing opinion that suggestion plays a large part, and that a vacation with plenty of distractions would accomplish as much without suggestion. Certainly these two alone are sufficient to account for the improvement called "cures," without calling in the alleged effects of the waters and baths. The literature put out from certain famous resorts imputes such ridiculous efficacy to the waters as to raise amazement that reputable physicians would sign it, and now that we know the mistakes in diagnosis, the whole mass of literature loses scientific value. Scarcely a word is said of the fact that the climatic conditions in certain mountain resorts are exactly what many a man needs after years of injury in the cities of the lowlands, even without the change, rest, recreation and suggestion. The subject should be put on a solid scientific foundation, for many a patient spends too much money on these trips for the health he could get at home.

It has become fashionable to go abroad and as long as that is the case, science cuts no figure in it at all. We seem destined to send a flood of gold abroad every "sea-

son," and certain parts of Europe actually depend upon the money of "fool Americans," who are openly ridiculed for gullibility. In addition to all this, the reports received from returning patients as to the mannerisms of many of the world famous practitioners of special methods—good for about everything—raise a grave suspicion that there is quackery differing in no respects from the methods of every advertising charlatan in America, who, by the way, secures the same kind of lay endorsement as that given to the "cures" of the old world.

An esteemed contemporary has remarked that the continental physicians have so lauded their local baths that an impression has gone out among laymen that a doctor is only a high grade bath attendant. It is high time that patients should be properly labeled before they go away and that they should be given distinctly to understand that they need rest, change, recreation, distraction, and fun when seeking a proper climate, and that these can be obtained in many places without the ridiculous baths. "Cures" should be for cases in which suggestion is really necessary, or in which "water" inside or out is scientifically proved to be beneficial. There is much room for reform in present methods of sending these cases away from home.

Belittling the environment seems to be the tendency in the great investigations on Eugenics now being carried on by Professors Karl Pearson and David Heron of the London University College. The preliminary announcement is made that the human output of the slums is bad, not because of the bad conditions, but because the children inherit a vicious physique from parents who naturally gravitated to the slums. That harm is done by bad hygiene is not denied, but it is shown that we have vastly overestimated the harm and that we cannot make a silk purse out of a sow's ear no matter how good we make the environment. A swine-herd is apt to be a brute even if he is made a king and his descendants are rotten in spite of the perfect hygiene of royal palaces. The children of the slum similarly are not much worse than their ancestors in spite of bad surroundings. The investigations are incomplete in that they fail to determine what it is that starts a family down hill. The first ancestor who gravitated to the slums did so because of inefficiency caused by something in his environment—say a paternal infection or injury during pregnancy or even before he was conceived. If there is any one thing which the biologists seem to be agreeing upon, as we have so often mentioned, it is that departures from parental type are due to new causes and are not necessarily so permanent as to be transmissible forever. Slum children as a rule do grow up better than parents if we give them the chance. Pearson's mistake is the failure to realize that the slum children resemble parents not because of heredity, but because each generation is similarly damaged by improper living. So let us continue our good work of improving the living.

The value of Pearson's Eugenic studies is in the discovery that we have magnified the effects of alleged causes of abnormalities. We even see bad effects where there are none. He refers particularly to the results of alcoholism which he finds not nearly so black as painted. This is not new, as it has been repeatedly pointed out that alcoholism is often a result of a bad systemic

condition and that the defective children of alcoholics are frequently born before the parental alcoholism arose. The children are abnormal because born of poor stock. Even when they are born after the parents develop alcoholism, it is found that the poisoning has had far less effect than we thought. It is now time for our psychiatrists to revise their estimates of the huge percentage of cases of insanity classed as due to alcohol and find out whether the alcoholism was not merely a result of the mental or nervous instability instead of a cause. Perhaps it arose long after the actual onset of the mental disease. The poor sufferer almost invariably turns to alcohol to get some stupifying relief from his symptoms, and it would be strange indeed if there were not a history of excessive indulgence in the vast majority of cases. This is a vital matter for, by focussing our attention upon alcohol, we might be blinding ourselves to the real causes which are removable. Prevention may be possible without touching the question of alcohol, for if the causes of nervous breakdown are removed there might be no desire to get drunk. Keeping alcohol out of sight is a poor way of ending the craving for it.

Pearson's work is bound to be epoch-making in that it will set us searching for real causes of degeneracy as soon as alleged ones prove an alibi. Above all else it will show that defective intelligence is at the basis of inefficiency—always has been and always will be, for it is a real result of inheritance no matter what the environment has done. Science has not yet shown how we can increase intelligence except by limiting reproduction to the brainiest as in developing strains of dogs, though of course in time it will be found what causes these variations now known to be transmissible. Then, and then only, can we institute measures by which the children will never be less able than the parents but possibly more able. They will then gravitate from the slums instead of towards them. Defectives now build up this kind of an environment as best suited to them, even though it increases the defect in later generations.

The enormous number of defective school children should not alarm us too greatly. Bad as it all is, there is plenty of evidence that it is an old old phenomenon —as old indeed as man himself but now more evident because there are more people. It is less in rural districts though still present, and as the population is now largely urban, it is quite natural that the proportion of defectives should increase though as a matter of fact there is no evidence that it has. Big cities are modern affairs and that is why their phenomena are being discovered, but the accounts of London some centuries ago, showed a deplorable number of defectives, probably far greater in proportion than in New York now. Though it is appalling that there should be nearly a quarter million diseased school children yet the defects are of minor things, while formerly they were severe. The seat of most of the trouble is said to be malnutrition, but it is not nearly so bad as in European cities of the last century. That is, the new facts must not cause undue pessimism, but rather the reverse for they show that though there is an immense preventive work ahead of us, the progress made in a century or even a half century has been enormous. Optimism is in place even if we are sure that perfection is unattainable. Moreover our preventive work is rapidly becoming more and more efficient now that we are learning the exact conditions and their causes.

MEN AND AFFAIRS.

The Death of America's Foremost Eye Surgeon—Dr. Herman Knapp.— In all truth it can be said that the death of few medical men in recent years has brought greater sorrow to more people than that of Dr. Herman Knapp on May 1st. Although in his eightieth year, Dr. Knapp was easily the foremost eye surgeon in the whole United States. To many, even in the medical profession, this statement will come somewhat as a surprise, for owing to Dr. Knapp's extreme modesty he was wont to keep himself very much in the background and there are perhaps a score or more of eye surgeons in the United States whose names are better and more widely known. But among those familiar with the history and progress of eye surgery in this country the name of Knapp has long stood forth as that of the man who has probably accomplished more than



DR. HERMAN KNAPP.

anyone else in the promotion of modern ophthalmic practice.

It was in 1854 that Dr. Knapp received his medical degree at Giessen, Germany, and within ten years thereafter he was considered one of Europe's most famous professors, with a medical student following second only to the great Helmholtz, the inventor of the ophthalmoscope.

"To Dr. Knapp belongs the credit of establishing the first university eye clinic in the world.[1] It was at Heidelberg University, and four years' investigations carried on in it and in the physical laboratory of Dr. Hermann Ludwig Helmholtz made his name well known throughout Europe. During this time Dr. Knapp devoted himself mainly to optical problems, especially to those connected with stigmatism and tumors of the eye. His monograph on 'Intra-Ocular Tumors' published at that time is still consulted as a classic by students and eye surgeons. One of the results of his work in the physical laboratory was 'Mathematical Determination of the Curvature of the Cornea,' whose multitude of figures make it look more like a text book on geometry than a treatise on the eye.

The story of Dr. Knapp's giving up his position at Heidelberg to practice here is known to few. In 1868 he came to the United States on a visit. It afforded him his first view of life in this country, and so delighted was he with New York City and its people that he determined to establish himself here. His colleagues and students at Heidelberg received the news with regret mingled with disapproval. They could not understand why any man in his right senses would give up a position such as Dr. Knapp held at Heidelberg to go to a place where nobody knew anything about eye surgery, and consequently would not appreciate his work.

Here he immediately came into public notice by founding the New York Ophthalmic and Aural Institute, whose charitable work showed better than anything else that he appreciated the obligations of true citizenship and of his position as a surgeon. Now it is proposed that the new buildings for the institute which Dr. Knapp during the last few years of his life wished to secure by endowments be erected as a memorial to 'America's greatest ophthalmologist who was in the first rank of the world's greatest surgeons.'"

The writer well remembers some days spent with Dr. Knapp through the courtesy of a mutual friend. Indeed those days have always been looked upon by the writer as among the most profitable of his professional life. Dr. Knapp was a teacher who thoroughly appreciated the value of clinical instruction. To the medical man seeking information he was ever ready to extend every assistance. The fullest opportunity was afforded at the Institute for making examinations and the variety and number of cases seeking attention were often little short of astounding. It was in cataract work, however, that Dr. Knapp probably achieved his greatest successes. Marvelous was his manual skill and technique in performing this most difficult and delicate operation. With a deftness that was beautiful to observe and a touch as gentle as the daintiest woman, he went about his work with a purpose and precision that inspired the most perfect confidence in his ability to do exactly what he intended. In a surprisingly short time after each patient was anesthetized, the cornea was incised, the capsule opened and the lens skillfully expressed or removed. Almost before patients realized, the operations were completed, and they were on their way to their rooms. It was the writer's good fortune to see case after case, all operated on with the same precise skill, the same delicate touch and the same splendid result. In fact it was a never ending source of wonderment to note the uniformly good results Dr. Knapp obtained. Although at the time of this brief association with Dr. Knapp he was already counted an old man, there was no hint of decline or flagging

[1] *New York Sun*, May 5, 1911

ability. One experience which is stamped indelibly on the writer's memory brought home to him with peculiar force the true nobility of this great man's work. Among the several patients to be operated upon for cataract one afternoon was a little old woman who had been brought to Dr. Knapp by her husband, a mild faced old clergyman. It was a pathetic sight to see the little old wife led into the room by her husband, who was all eagerness. They had come from up state somewhere and though they had little money—the old gentleman being a superannuated minister about 70 years old—Dr. Knapp greeted them with the courtesy and kindness that the blind were always accorded, even though his manner to others sometimes seemed abrupt and hurried. The old lady had been blind, it was explained, for over a decade. During a period of ten long, weary years she has been denied the sight of her loved ones, and had become reconciled to the prospect that she was never to see them again. But the earnest solicitation of her dear ones and especially of her faithful loving husband had persuaded her to brave the terrors of the big city and seek the skill of the great surgeon as the last possible chance of restoring her sight. One could see that her constant thought on the subject and the discussions she had had with her folks had made this operation the crisis of her life. Although as she entered the room she was subdued and retiring, it was evident that she was keyed to the highest point, with all her fears, fortitude, doubts and hopes so concentrated on the operation that she was practically oblivious to all else. The husband was likewise wrapped up in the situation, but while plainly anxious, he seemed to have a confidence in Dr. Knapp's ability to achieve the result that meant so much to his wife and himself, that was a splendid testimonial to the master surgeon as well as a fine exhibition of Christian hopefulness.

Conservative and careful to a degree, Dr. Knapp was very cautious in the few words spoken not to create false hopes or to stimulate any expectation of miraculous results. At the same time, he did not hesitate to state that the case was one of ordinary character promising more than fair chances of restoring at least good and serviceable vision. Unreservedly this little old couple had placed themselves in Dr. Knapp's hands. For the time being every other detail of their existence was sunk in the ordeal this poor little blind woman had to go through. The writer had seen many pathetic sights but none more compelling in its human interest than that of this aged couple, the patient ready for what Fate had to offer her, and her faithful husband at her side bracing and strengthening her by his presence and a reassuring clasp of his hand. Rapidly the various steps of the operation were taken. With the utmost delicacy and a rapid precision that was fascinating because of its freedom from false or superfluous movements, the great operator quickly approached the all important or rather crucial part of the operation. It seemed as though every one was holding their breath. Besides Dr. Knapp there were his assistant, one or two nurses, the little old clergyman and several onlookers, consisting of medical students and visiting physicians, which included the writer. Never will the picture of that moment and day be forgotten. The operator was oblivious to everything but the problem before him, and the tenseness of his concentration was contributed to each one present. Not a sound was heard except his occasional quick request or command. With admirable will power and self control the patient held herself motionless. What thoughts must have come to her in that period, which though wonderfully brief must have seemed an eternity! Quickly the operator ofter making the necessary corneal incision slit the capsule,

laid down the tiny instrument, picked up another with which he exerted a little well placed pressure, and lo, the lens slipped out through the corneal opening with almost mechanical precision. With infinite carefulness, the iris was tucked in, the corneal flap straightened out—and the critical instant arrived. Holding his outstretched hand before the patient, the surgeon asked her what she could see. Her exclamation told the story. Accurately she "counted fingers" and then her head was gently turned to the humble little figure at her side. Never did a face show more anxious anticipation than that of the husband, waiting her verdict. They were only two brief words, "Oh, John," but their wealth of meaning doubtless made them among the sweetest he had ever heard. Unquestionably she could see a fairly distinct image of the one she loved most, and the joy and happiness that filled her face was beautiful to see. Not a word or question came from the husband but two big tears rolling down his cheeks showed the depth of his feeling. With genuine satisfaction Dr. Knapp stated that everything promised an exceedingly good result with excellent prospects of satisfactory vision. The little old husband could control himself no longer. With relaxation of the tension, he turned away, fairly overcome by his joy at the realization that their dream was coming true. Hardly anyone present had failed to feel the tension of the operation or experience a surprising sense of relief as well as of satisfaction, as the operator completed his work and—like a judge pronouncing a verdict—gave his prognosis.

The whole episode was just a simple little affair, such as Dr. Knapp had taken part in, hundreds and thousands of times, but it had all the elements of a human drama and gave the writer a new viewpoint of the noble service that the skillful faithful surgeon renders to stricken humanity. No one could have passed through the experience described, commonplace as it was in its surgical aspects, without understanding that the capable conscientious medical man earns a wage that is never measurable in dollars and cents.

According to modern standards Dr. Knapp when he died was far from being considered a rich man, but what a wealth of good works he left behind! Happy indeed is the man who can leave such an estate made up of the heartfelt gratitude and appreciation of the thousands whose physical ills and sufferings he has relieved.

As student, teacher, physician, surgeon, editor, (Dr. Knapp founded the Archives of Ophthalmology and Otology and long served as editor) and good citizen, this fine representative of a nation that has contributed so many of its talented sons to the upbuilding of American medical science, gave the best that was in him for humanity. Adequate appreciation of the splendid services he rendered over so many years can never be expressed, but if prayers avail what humanity hopes, the thousands born in the heartfelt gratitude of the multitude he cured and comforted by his skill and tireless energy, should bring him "the peace and joy that passeth all understanding."

The following poem taken from a contemporary is very appropriate:

The Cataract Operation.

"Beneath his wrist there stirs a sun-god's thought.
A strong magnetic current swiftly flows
Through palm and finger-tip and power bestows
On tiny blade of steel, with promise fraught.
Up toward the eye the charged blade is brought.
Marble, moonlit, the arched cornea shows,
The iris, lying lakelike in repose,
And the deep pupil where the soul is caught.
'Let there be light,' he says—'Let there be light,'
And solemn as the sign of cross, the hand
Performs the miracle. At that command
The pulsing thought leaps toward the blind man's night,
Symbolic, like a dove's flight to its nest,
The haloed hand drops down and is at rest."

—*Mary Murdoch Mason in The Doctor's Factotum.*

ORIGINAL ARTICLES.

HEIGHT AND WEIGHT IN RELATION TO LIFE INSURANCE.[1]

BY

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Height and weight as relative one to the other, must always be of great importance in estimating the value of an insurance risk. We are prone, I think, to merely compare the figures shown by the applicant with the table given in the instructions to medical examiners; add some very brief and usually incomplete information, if the case is out of limits, and leave the rest to the examiner in chief. While this latter course is one of necessity, a little study of the subject gives better knowledge and should lead the examiner to a more intelligent presentation of the case at headquarters.

Formerly the factors height and weight were brought into comparison without especial regard for age—latterly however, the age plays an important part. This is as it should be, for we recognize a normal tendency to gain of weight with increasing years. The present table of the Royal Arcanum figures for example, at the height of 5 ft. 10 in. a standard weight of 154 pounds, at age 21 to 25; but at 51 to 55, 172 pounds is allowed—a difference of eighteen pounds.

[1]Read before the Royal Arcanum Medical Examiners Association of Greater New York and vicinity.

Considering the matter of height, the ideal insurance risk is said to range from 5 ft. 7 in. to 5 ft. 9 in. According to the National Fraternal Congress, longevity and build have a close relation; the greater the variation in height from 5 ft. 7 to 9 in. the greater the risk. Brockbank (1) states that tall men are not so long lived as their brothers whose heads are nearer the ground. Men who are both tall and stout are not as good risks as stout men of medium or below medium height. They do not bear acute illness so well and accidents to them are likely to be more severe. Certainly a tall man who slips on a banana peel has further to fall and if he be also overweighted with avoirdupois, he comes down with more of a sickening thud. Likewise in a local unpleasantness, such as a riot, the large stout man presents a bigger bullseye for stones, bricks, and other offerings of a similar nature than does the little runt who cannot see over the shoulder of the man ahead.

Risks over the allotted limit of weight are especially liable to diabetes, heart affections, apoplexy, gout, diseases of the kidney and arterio-sclerosis; excessive eating and abuse of alcohol is common among this class.

Dealing for instance with diabetes: Gossage (2) analyzed 5,375 claims, among which were 285 overweights of whom 19 or 6.6% died of diabetes as compared with 65 or 1.28% of the 5,090 who were not overweight. It is stated that stout men under 40 are worse risks than those over 40 and under 60, and that men who were unduly fat before puberty are poor risks especially if the tendency is hereditary (3). The stout men, however, are not quite as black as they are painted, for according to actual experience they are better average risks

than their very thin brothers who are liable to tuberculosis and disorders of the nervous system. But even the featherweight has points for consolation. He bears acute illness better than the heavyweight, and it seems to be a fact that the majority of people living beyond the allotted span of three score and ten are of light build. A slim, wiry, small made man is stated to be a better risk than a thin big boned one (4).

As to recommendation of and reporting upon applicants who depart largely from standard weight as compared with height and age, we cannot classify these cases unless we know the actual weight.

It is a sine qua non therefore, that the examiner should possess an office scale It is a rather surprising matter of personal observation that many men do not know their own weight within ten pounds. It is also an indisputable fact that almost every very stout or thin person will cheerfully reduce or add to the last weight when questioned. Aside from life insurance such a scale is a necessity. In cases of tuberculosis the patient must be, and in all cases of subnormal physical conditions should be, weighed once a week on the same scale. The patient becomes interested in the matter and returns where he would otherwise often skip a week. This piece of apparatus pays for itself many times over.

The Arcanum allowance of 25% above and 20% below standard weight is not drawn in sharp lines, and it by no means follows that because an applicant just comes within these limits he should be recommended and the papers forwarded without extra data.

A factor of prime importance, to my mind, in the man who exceeds, and the man who approaches, the limit is whether he is showing a tendency to steady loss or gain without apparent cause. In weight loss, laborious work, grief, confinement indoors or change of occupation are to be considered. Lacking clear etiology, tuberculosis, or other organic disease may be suspected in steady decrease in weight. In continued loss from any cause, or without discoverable cause, the risk is not acceptable for the time being. In steady gain, unless in recovery from acute illness or beneficial occupation change, the life is undesirable at the moment, for the weight limit may be passed—again alcohol may be the causative factor.

To determine loss or gain it is necessary before any move is made toward weighing, to ask such questions as, what is your usual weight? What was your last weight? What did you weigh a year ago? This is more effective than the routine question as to recent loss or gain. A marked variation between the weight given and that taken will at times be noted, even in those who are not far from standard. If this occurs, consideration should be given to the season of year, of weight of clothing, and to the kind of scale previously employed. The penny in the slot variety are interesting but not accurate. In cases of doubt hold up the paper a couple of weeks and re-weigh.

In all cases unduly stout or thin, the family weights and measurements, as far as possible, should be noted as showing possible heredity, which is of value if longevity is also shown.

In underweights the shape and measurements of the chest have strong bearing. Is the chest flattened? Is it narrow? Are the supra-clavicular spaces retracted? Is the expansion lessened? Keating (5) says that a man with a narrow chest is less desirable than one whose chest is in proportion, which is so apparent as not to be bril-

liant on Keating's part. Is the muscular development fair? Does the man stand erect or stoop and hollow his chest? Is he large or small of bone? Is his face of good color and soft in lines or does it evidence wasting? Greene (6) lays down this dictum: "If an underweight has a well developed and free expanding chest, if his health record is good, his family long lived and free from tuberculosis, and particularly if the light weight is a family trait, he may be accepted at ordinary rates, even if 20% below tabular weight. If on the other hand these favorable features be lacking he cannot be given so much latitude."

In considering overweight the following points are of value. The measurement of the abdomen should not exceed that of the chest for this indicates a heavy deposit of fat. A sedentary occupation detracts from the value of the life. A pulse persistently rapid evidences lack of cardiac strength. In the very stout subject the heart is best listened to with a phonendoscope.

Note whether there are signs of the overweight being due to alcohol, dilated facial capillaries for example, skin affections being excluded. Abundant muscular tissue over the chest and arms is a matter to be noted in the applicant's favor.

If the major points mentioned in this paper are kept in mind and the essential ones in a given case noted upon the examination blank, we will come more quickly to opinion regarding recommendation, and by facilitating decision receive benedictions from headquarters.

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WITH REFERENCE TO THE OBLITERATION OF THE CRAVING FOR NARCOTICS.[1]

BY

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In the *Journal of the A. M. A.* (Sept. 25, 1909), Dr. Alexander Lambert, of this city, published an article on the obliteration of the craving for narcotics. In this article he stated that he had succeeded in inducing a certain layman to publish the formula and details of a secret plan of treatment which the gentleman had for some time been exploiting as a cure for the drink and drug habit, and which had been advertised to the public in much the same way that other so-called "Cures" have been and are still being advertised. The claims made by Dr. Lambert for the treatment in question were most startling. He even went so far as to speak of the combination of remedies used as a "specific." He did not, however, mention the fact that practically the same formula and method was published by Dr. C. C. Langsdorf in the *N. Y. Med. Record,* Apr. 11, 1908.

In the *Journal of the A. M. A.,* of May 14, 1910, Dr. George E. Pettey, of Memphis, Tenn., published an article in which he made very clear that the claims made by Dr. Lambert do not rest on a sound foundation, and he further emphasized the fact which earnest workers in the field of inebriety have pointed out again and again, namely that every case of inebriety must be studied and treated as an individual, and that specifics for the obliteration of the craving for narcotics do not exist.

[1]Read at a meeting of the Eastern Medical Society, March 10, 1911.

In the few moments at my disposal this evening, I will take up another phase of the question.

It is deplorable—to put it mildly—that after all the hard work that conscientious workers have done to put the treatment of the drink and drug habits on a sound, honest and scientific basis, and to remove it from the vale of charlatanry in which it has long been reposing owing to the inactivity of the medical profession, that Dr. Lambert saw fit to take up and indorse a treatment the peculiar virtues of which were not and are not apparent to other medical men.

Were the public to know how curable the narcotic habits are under proper treatment, the amount of good that would be done is inestimable. However, medical ethics decrees that the medical man must hide his light under a bushel, and so the public does not know what is being done and of necessity, readily falls prey to the alluring advertisements of the charlatan. A shrewd layman takes advantage of this by getting hold of a formula—the number of which is legion—for the treatment of the drink and drug habits, establishes an institute and advertises it to the public, making the usual assortment of extravagant claims of the merits of the treatment therein employed. He picks up a few medical terms, talks glibly about physiological change, and of other medical things of which he knows even less than he does of physiology, and, realizing the urgency of obeying the law, he employs physicians to carry out "his treatment." For a time things go on swimmingly and he makes money. Then comes the inevitable reaction. The public learns that the claims are not based on truths and patients are slow in coming. Something must be done to strengthen the tottering institution and our resourceful layman makes a bold move. He caps the climax by securing a "write up" and indorsement from a physician whose name is honored and respected. By what means he has secured this indorsement we need not discuss. Suffice to say that it comes from so reputable a man that we are compelled to believe that the physician has been misled. The indorsement constitutes the institute's stock in trade and most valuable asset. Advertising in the newspapers, etc., so very costly, can now be stopped. The "secret" is given to the medical profession (and incidentally the public is reached), a coat of whitewash is applied, the name of the institution is changed, and the "Hospital" makes its bow glistening with "ethicalicity."

Justly proud of having secured an honored name as a drawing card, and encouraged by his success the enterprising layman set out to organize a medical staff of consultants. Sad to relate, he succeeded. The reasons which prompted these physicians to permit their names to be used in connection with an institution of this character and history, owned by a layman and conducted purely for financial gain are not exactly clear, but I venture to suggest that were younger and less influential members of the medical profession to take this step, they would be severely criticized and perhaps disciplined by their elders, who would hold up their hands in holy horror.

Before long, in my opinion, the treatment in question will again take its proper place among other so-called cures which have been and still are being exploited as specifics for the narcotic habit. But not before doing harm to the public and to those physicians who are devoting their lives to the work of helping inebriates for whom so much can be done along scientific and hon-

est lines, and without imploring some layman to give his "secret"—save the mark—to the world. The public will be harmed because the claims made for this treatment and similar treatments are born almost entirely of the enthusiasm of its promotors, and when the cure fails, as they almost invariably do, the patients are naturally led to believe that cure is impossible; they lose hope, and what is for them especially disastrous, they are kept away from the greatest hope there is for the inebriate, and that is the services of scientific medical men, honest searchers after truth, such as are to be found all over the world.

The subject of the rational treatment of the inebriate is arousing interest everywhere and justly so, for there is no more important problem today than the one presented by inebriety. Physicians are devoting themselves exclusively to the study and treatment of inebriates, and the specialty is recognized as a legitimate branch of psychiatry and neurology. It offers a vast field, fertile with opportunity, especially for the young physician. To such as are contemplating taking up the work, I say, do so by all means. There is no branch of medicine in which you can do so much good for suffering humanity and also for yourself. But do not be misled into taking up this, that, or the other plan of treatment because some good minister, even though he be a bishop, or some learned physician, however well connected, has permitted his name to be used by its promotors. Study your inebriate patients intelligently as individuals and treat them rationally, that is with few drugs and much common sense. I repeat here what I have urged for years, that the treatment of the narcotic habit and the restoration of the inebriate lies with the physician and not with the physic.

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DIAGNOSIS OF CHRONIC APPENDICITIS.

BY

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There can be no doubt but that patients suffering from frequent attacks of chronic appendicitis have symptoms referable to the stomach.[1]. Because stomach symptoms are so prominent are we to infer that the stomach is the seat of the disease? It must not be forgotten that patients ill with chronic appendicitis may at the same time be suffering from some form of stomach ailment. Senator and Ewald years ago called attention to the reflex gastric symptoms in latent appendicitis.

Whenever a patient consults me for "indigestion or dyspepsia," both terms being obnoxious and in modern gastro-enterology without meaning, I usually do not at first look to the stomach for the cause of the complaint. I wish to elaborate upon this point because the general medical practitioners are prone to delegate the cause of the trouble to the stomach upon the subjective symptoms.

This opportunity being appropriate, I cannot better express my feeling towards the terms dyspepsia and indigestion, than to reiterate the words of Briton (*Progressive Medicine,* Dec., 1910), who wrote more than fifty years ago the following:

"As the progress of scientific medicine has gradually revealed the morbid anatomy of the digestive canal, and thus detected structural disease with increasing accuracy and frequency, the vague (but useful) term 'dyspepsia' has acquired a continually more restricted meaning. Nor can we doubt that it is destined to still further limitation, and

[1]R. T. Morris, Archives of Diagnosis, April, 1909.

that, as advancing knowledge brings us better means of investigation, and so enables us to discover and distinguish structural changes of which we now can only observe the functional results, the aggregate of maladies called dyspepsia must undergo successive subtractions, tending more or less completely to its total subdivisions into special maladies, and to the removal of this term from our nosology."

These sentiments and expressions are more appropriate today than they were fifty years ago.

During the past year a number of articles by prominent men have appeared substantiating the prophetic words of Briton. Among the more prominent ones are, "Appendix Dyspepsia," by Moynihan, in the *British Med. Jour.*, 1910, No. 2561; "The Clinical Significance of Gastric Hypersecretion and its Connection with Latent Disease of the Appendix," by Fenwick, in the *Lancet*, 1910, No. 4515; "Appendicular Gastralgia; or the Appendix as a Cause of Gastric Symptoms," by Paterson, *Ibid.*, p. 708; "Dyspepsia and Indigestion Viewed from a Surgical Standpoint," by Munro, in the *Boston Med. and Surgical Jour.*, 1910, vol. 162, No. 25; "Conditions Simulating Dyspepsia," by Hutchison, in the *British Med. Jour.*, 1910, No. 2565; and "Functional Dyspepsia," by Drummond, *Ibid.*, No. 2567. These articles are so lengthy and important that they could not be sufficiently abbreviated in this paper to do them justice. My readers are urgently requested to peruse those articles.

In a number of cases (about 15%) the history failed to show a definite previous attack of acute appendicitis, sudden, severe abdominal cramps or attacks of "acute indigestion."

After an attack of acute appendicitis some of the patients, though materially improved, still complain of not feeling in perfect health. Vomiting is seldom present, but more annoying and unnerving is the constant feeling of nausea at the sight of nourishment or of introduction of food into the stomach. However, when food is introduced into the stomach, soon thereafter cramps or discomfort in the upper part of the abdomen begin (sometimes the cramps centre about the umbilicus), only to remain until copious evacuation of the bowels has been accomplished. These symptoms are constantly being interpreted by the general medical practitioner as gastric or intestinal dyspepsia or indigestion. It is therefore seen how easily one is led astray when relying solely upon symptoms and superficial examination; the symptoms above described being nothing more than the outward expression of reflex gastric irritability due to other causes than disease of the stomach. In the cases just mentioned, the cause was chronic appendicitis. I do not wish it to be understood that all cases presenting these symptoms referable to the stomach are cases of chronic appendicitis. There are a great many other causes that give rise to these symptoms.

The symptoms of chronic appendicitis may be insidious in their onset, while in a few patients sudden sharp attacks simulating acute biliary or nephritic colic, gastric ulcer or beginning inguinal hernia, have been observed.

The pain is usually of dull character and is most often referred to the seat of the disease according to the position of the appendix and the part involved. The pain may be referred, at first, to any portion of the abdomen, lower thorax or to the back on the right side on the level with the second or third lumbar vertebra. During the last two months, the majority of the

cases referred their pain to other parts of the body than the right iliac fossa.

Nausea is usually of reflex origin and is present in the greater majority of the cases seen. Vomiting is less frequent and when present is not severe. Diarrhea is seldom present, while in a number of cases constipation is more or less annoying and bears no relation to the gravity of the disease; the constipation in quite a few of the cases dating from early childhood.

A feeling of lassitude or of not being well is a complaint quite often observed in these patients; eructation of gas, especially in the neurotics, has frequently been noted. The patients are usually well nourished, the facies showing no evidence of any illness. In a few cases icterus has been observed which Holländer[1] believes to denote a beginning or advanced necrosis of the appendix.

The right rectus muscle may or may not be tense during the quiescent stage but during an exacerbation of an attack, the muscle becomes tense, the intensity of the spasm increasing according to the severity of the pain and the peritoneal involvement. This sign may also be lacking even during the height of a recurrent attack. In many thin subjects I have been able to definitely palpate the thickened appendix and outline its position. Gaseous distension of the ascending colon, more or less severe, is a noteworthy sign.[2]

Elevation of temperature and acceleration of the pulse rate were not frequently noted except in those cases that were accompanied by peritoneal involvement, sudden attacks of acute enteritis, acute constipation, gastritis, bronchitis or other acute complications.

The blood, in uncomplicated cases, was negative; in the complicated cases its value was most helpful.

Bimanual (recto-abdominal or vaginal-abdominal) examination often elicits many additional points of information in the diagnosis of chronic appendicitis from other lower abdominal and pelvic inflammations.

Of very great importance in the diagnosis of chronic appendicitis is the differential or ruling-out method of diagnosis. We must differentiate chronic appendicitis from neuralgia of the skin covering the right iliac region (in other terms, intercostal neuralgia of the eleventh and twelfth intercostal nerves), myalgias of the abdominal muscles in that region, inflammations, malignancy, elongations and habitual torsion of the cecum,[2] abdominal angina,[3] intussusception and malignancy of the ileum near the ileocecal valve, aneurysm of the right common iliac artery, internal hemorrhoids, beginning right inguinal hernia, pyelitis of the right kidney, prolapse of a small right kidney, cholecystitis, cholelithiasis, pylorospasm in a markedly prolapsed stomach, urinary cystitis, beginning typhoid fever with a history of one or more previous attacks of appendicitis, psoas abscess on the right side, deep right inguinal adenitis; in woman, ovaritis, salpingitis and inflammations and abscess formations of the uterus and adnexa on the right side. We must also keep in mind the possibility of appendicitis on the left side as shown by Karewski.[4] Rare conditions, diverticulas

[1]Berliner Klinische Wochenschrift, 1910, No. 5, p. 194.

[2]R. T. Morris, Archives of Diagnosis, April, 1909.

[3]Klose, Munchener Med. Wochenschrift, 1910. No. 7, p. 348. (*Progressive Medicine*, Dec., 1910, p. 117).

[3]Kreuzfuchs, Deutsche Med. Wochenschrift, 1910, No. 7, p. 306. (*Progressive Medicine*, Dec., 1910, p. 127).

[4]Berliner Klinische Wochenschrift, 1910, No. 5, p. 194.

[5]Konjetzny, Münchener Med. Wochenschrift, 1909, No. 44, p. 2251.

of the intestines and appendix,[5] must also be thought of. We must be ever upon the alert to recognize the hysterical and neurasthenic patients with their multitude of complaints and exactness of their description.

To give the differential points that distinguish the different diseases from chronic appendicitis would take considerable time and space. To those of my readers who are especially interested in the diagnosis of digestive disturbances and diseases, the perusal of the many good works on modern medicine which are easily accessible will supply the many points and details necessary for their differentiation. However, there are a few points that I wish to bring out more prominently. The eleventh and twelfth intercostal nerves run downward and inward towards the pubes and they supply the skin over the iliac areas on their respective sides with sensation. It may well be seen that inflammation of these nerves would cause pain in and contraction of the abdominal muscles of that region, giving symptoms that a hasty and superficial examination would be likely to be interpreted as an attack of acute or chronic appendicitis. This condition has been observed a number of times by me.

High internal hemorrhoids were found in a patient as the sole cause of her symptoms in whom a diagnosis of a possible chronic appendicitis was made, the chief complaint being of cramping pains in the lower abdomen with attacks of nausea from fifteen to thirty minutes before defecation. Of distinctive help in the differential diagnosis was the microscopical chemical examination of the feces, the conclusion of which pointed to the presence of blood from the lower portion of the large intestines. It may be perhaps needless to mention that appendicitis was not found.

Particularly significant are masses in the right iliac region. Many cases have been diagnosed as chronic appendicitis with or without slow forming abscesses or other tumefaction when the condition was one of small prolapsed kidney, fecal masses or malignancy in the lower ileum and cecum. In one case of particular note a diagnosis of abscess appendicitis with imminent danger of rupture was made which proved to be on further careful bimanual examination a subperitoneal fibroid of the right horn of the uterus with a probable purulent salpingitis. Operation subsequently proved the latter diagnosis.

At the time of writing this paper I was called in to see three cases, the diagnosis in each being a probable appendicitis. The first patient had been curretted about two weeks previous for metrorrhagia and menorrhagia. These conditions somewhat improved but the pain in the right iliac region still persisted. She was examined bimanually and a mass about the size of a small orange was found lying on the anterior surface of the uterus near the right horn. This mass in all probability is an intramural fibroid. She also had a subsiding right salpingitis. She was sent to the hospital and up to this late hour an operation has not yet been performed. The second case was a right sided anterior perimetritis about the horn of the uterus. The third case seen was diagnosed as an inflammation of the abdomen and bowels. On examination an old scar was found, the result of an appendicitis operation over five years ago, a more recent scar, resulting from an operation for volvulus, both scars being on the right side and in close proximity. Operation was not advised by her physician but the patient was told to get up and about as she was doing nicely. The

patient failed to rally and I was consulted to fathom the trouble. Bimanual examination elicited the fact that she was also suffering from perimetritis and right salpingitis. She is now doing nicely under proper treatment.

THE TREATMENT OF DIABETES MELLITUS.[1]

BY

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Any comprehensive discussion of the treatment of a disturbance of metabolism like diabetes involves a greater space and time than is at my disposal. It would seem that after all, most of the apparent benefits derived from therapy are to a large extent dependent upon the other measures that are combined with the drugs used, such as diet, change of surroundings, modification of the habits of life, etc. The subjective factor, represented by the individual case, the difference in the pathological cause of the symptoms, and the variability of the progress of the disease will often prompt us to claim credit for therapy where in truth little or none is deserved. It can never be a question of what does this or that authority recommend, for so diverse is experience among them that we merely ramble in a mystic maze.

Regarding prophylaxis in diabetes little can be said. While it is true that some families are prone to the hepatic form, it would be absurd to withhold in these cases starches and sugars on the presumption that the condition may some day assert itself. In some obese persons there is a disposition to a disturbance of carbohydrate change, which is in itself the cause of their obesity. Beyond warning such persons to be moderate in their taxing of the glycogenic function we can do nothing.

While drugs have their place in the symptomatic treatment of diabetes, we know of no specific. It is possible that in the pancreatic form of the disease the administration of some preparation of the pancreas will in time be found to influence the condition. But until now no such product has been found to cure the pathological cause. We will return to this subject later.

Because of the still existing doubt as to the definite pathology of diabetes we find the cases, as of old, divided into the neurogenous, syphilitic, pancreatic, hepatic, etc. If in any particular case a definite diagnosis has been made as to what special organs or systems are at fault, one might reasonably expect to work out a logical plan of therapy. Generally speaking, however, such is not the case; and we find a disposition in the profession to treat all cases diagnosed as diabetes mellitus along the same lines—modifying and adapting their measures to meet the needs of the individual case.

Of primary importance in the treatment is the diet. The dangers of an excess of unchanged sugar in the tissues being recognized, it has long been known that in most cases a withdrawal from the system of all foodstuffs that tax the power of carbohydrate consumption will be followed by an amelioration of symptoms; and that a sufficiently prolonged rest of these functions will be rewarded often by an increased ability to properly convert and utilize carbohydrate food. And so we must establish diet as the first consideration. The fact

[1]Read before the Norwegian Alumni Society, March 8th, 1911.

that withholding the carbohydrates from the diabetic will cause a diminution or disappearance of sugar from the urine is a mere concealment of the disease. Yet the important truth remains that something more than this is obtained by a diminution or total withdrawal of such foods. When a patient has been for a time on a diet containing no saccharine or starchy ingredients, he often acquires a tolerance for such articles; and will excrete much less sugar after the ingestion of a certain amount of amylaceous food than he did before. It would seem that the rest given to the sugar consuming function of the body gives it an opportunity to recover strength. In mild cases the improvement may be lasting.

Under all circumstances the diet of a diabetic should be so ordered as to improve the strength of the patient if possible. The store of albumin in the body must be maintained or even increased. The average daily quantity required for a man of ordinary weight has been computed at about 2,500 calories of albumin. But this is not the problem in the care of the diabetic; it lies with the carbohydrates and fats chiefly. In order to obtain a sufficient amount of nutritive values the healthy individual must dispose of a considerable total of carbohydrates. In most men they constitute about 40%—often much more—of the entire daily food requirements. But to the diabetic as nutritive material they assume subordinate rank, since a large part is excreted unused in the urine. Now the greater this excreted amount is, the more worthless as a building material for the body are the carbohydrates—mere waste material—and our problem lies in affording nourishment that will be assimilated. Moreover, large quantities of carbohydrates are proven dangerous, since diabetics who indulge freely in them without regard to the severe glycosuria present, suffer in time a markedly decreased tolerance for sugars and starches. Functionally weak organs, here represented by the sugar-consuming cells, are made yet weaker if continuously spurred on to overwork. Rest, not exercise, is for them the proper treatment. The greater the loss of sugar in proportion to the amount ingested, the more must the patient look for the support of his strength to other food-materials—fats and proteids.

To what extent can fats and proteids supplement the banished carbohydrates? It is not often that we are called upon to utterly deprive a patient of carbohydrate food, but we must guard against his satisfying his appetite with food that is of no benefit to him, but serves only to cut the consumption of forms of nutrition that, for him, are most necessary. We know, then, that the proteids and fats must constitute the main portion of the diabetic's diet. It is absolutely impossible, on an exclusive proteid diet, to introduce enough nutritive values to maintain a proper balance. A fair quantity of fat should be added to increase the caloric value of the diet. Hydrocarbons can to a considerable extent supply the loss of carbohydrates. But an excess of fat is held by many to favor the production of oxybutyric acid, with its consequences. I believe that, theoretically, the proteid and fat diet, to the exclusion of carbohydrates, would otherwise represent the most reasonable regime in severe cases; while in mild cases one may permit a certain percentage of selected forms of carbohydrate food, up to the point of tolerance determined by the urinary excretion. It is, however, difficult to compel the private patient to diet properly, and some acquire

an utter disgust for fats. Likewise, like morphine fiends, diabetics, because they do not always feel ill, are prone to violate their instructions. Von Noorden says that the desire for starches is probably an inherent condition of the disease, and well-nigh uncontrollable.

The mild forms of glycosuria in those over fifty do not require the strict adherence to diet demanded by treatment of the younger cases. Cases in the old are usually benign, even though some sugar be constantly excreted. But in all cases of diabetes it is well to select one week in every month of absolute abstinence from carbohydrate food. A prolonged total abstinence from sugars and starches is theoretically dangerous. The only materials that can supply the place of the sugars are the fats. If, however, we overfeed our patient with fats to gain this advantage, we are, according to many authorities, jeopardizing his safety by subjecting him to the possibility of acetone poisoning.

The acetone bodies, (acetone, diacetic acid, oxybutyric acid), originate out of the fatty acids. So long as carbohydrates are being abundantly disintegrated in the body, the richest intake of fats does not cause acetonuria. Eighty to 100 grammes, (2½ oz.) of carbohydrate food consumed daily suffices completely to stop any acetonuria, according to Von Noorden. On this account the healthy man excretes only a trace of acetone; but let him entirely exclude carbohydrates from his diet, and live on fats and proteids, and his acetonuria will in a few days rise to twenty or even fifty times the normal. So it is not the excess of fats that causes acetonuria, but the deprivation of carbohydrates. It now becomes apparent why we should always allow our diabetics a certain amount of carbohydrate food consistent with the tolerance of the individual case.

It will be interesting in this connection to refer to the success of Von Noorden clinically, from the use of his so-called "Oat Cure," which consists of the use exclusively of oatmeal gruel as the carbohydrate. To quote his own words: "A few years ago I introduced the cure into the treatment of diabetes. It was quite accidentally that I came to recognize its significance. A few patients in my clinic were suffering from severe disturbance of the stomach and intestine. I therefore permitted them nothing but oatmeal gruel. To my surprise the glycosuria did not increase, but became much less than it had been on the very strict diet. This was the starting point for further investigation, which was carefully continued for two years before I ventured to publish the paradoxical fact. The oat cure, as now prescribed by me, consists of the daily administration of 200 to 250 grammes (oz. 6-8), best given in the form of gruel, of oatmeal; this allowance every two hours; 200 to 300 grms. (oz. 6-9) of butter, and often about 100 grammes (oz. 3), of vegetable proteid, or a few eggs, may be taken in addition. Otherwise nothing is allowed except black tea or coffee, lemon juice, a little brandy or whisky. After three or four days of this diet there follow one or two vegetable days. Often even in this short time the purpose for which it was intended is found to have been attained; in some cases the performance has to be repeated three or four times. It appears to be advisable to let a few days of restricted diet, or even one or two vegetable days, precede the oat cure; for, when it immediately supervenes upon the mixed diet, the desired effect follows rather late. At the commencement of the oat cure treat-

ment one notices, it is true, even in the most favorable cases, an increase of the glycosuria; but in a few days the sugar excretion diminishes and the acetonuria even more so. The following fact is noteworthy: cases in which the results of the treatment were most beneficial were without exception afflicted with the very severe forms of glycosuria; many of them were in children or in young people. The oat cure has rendered me immense service in severe cases, and I may even say that I have often succeeded in fending off incipient coma by its use. Another important experimental observation is that one should under no circumstances allow other carbohydrates to be taken at the same time as the oat-meal; meat should also be strictly forbidden. Whether it is the rice cure of Duering, the milk cure, the oat cure or the potato cure, on which we fix our attention, we find that underlying them all is one common principle—namely, the limitation of carbohydrate to one particular kind, excluding all others, and also excluding meat. It would seem that the diabetic organism is able—temporarily at least—to regain the power of assimilation for one particular carbohydrate."

As to the use of drugs, let us pass to the cases where syphilis seems to figure in the etiology. It is admitted that in a few cases mercury and the iodides have proved almost miraculously helpful; have we perhaps here a specific lesion in the pancreas or liver to reckon with? Some years ago A. Mayer, of New York, wrote enthusiastically about the effects of mercury bichloride in diabetes. Beginning with gr. 1-32, three times a day after meals, the dose was gradually increased to gr. 1-12. I had one experience with this treatment where I was convinced of its benefit. Possibly in certain forms of glycosuria it may improve by diminishing intestinal putrefaction. Von Noorden claims that the benefits from mercury in any case are transitory, no cures being to his knowledge positively attributable thereto. He warns us that diabetics are peculiarly sensitive to the evil effects of mercury, because of the sensitive state of the mouth.

Organotherapy has been attempted in the treatment of this condition. First for consideration are the preparations derived from the pancreas, because it would appeal to one that this organ might furnish the solution to a certain number of the problems. I find that while authorities seem agreed as to the fact that these preparations have no effect upon the disease itself, they occasionally assist in the digestion and absorption of fats, and may thus be of assistance. Of all pancreas preparations the so-called "Pancreon" is lauded by Von Noorden. It is given in doses of one to two drams daily, with more or less indifferent results.

Other organic extracts, suprarenal, thyroid and liver, are found only to increase the glycosuria, and are dangerous to experiment with in diabetes.

Of drugs let us mention the most valuable only. Tonics are frequently of benefit. Opium and its derivatives hold the first place in the treatment of this disease. Opium or codeine will frequently diminish glycosuria when combined with diet, but on what their action depends is not known. The extent to which they do benefit does not, however, justify the long continued administration of such powerful agents nowadays. Salicylic acid, the best among its preparations being aspirin, as it is best tolerated by the stomach, and antipyrine are used also. The salicylates are recommended in slight cases, and while carbohy-

drates are being permitted; while opium acts best in the severe cases, during periods of restricted diet. A diabetic who can take 15 ounces of bread daily without salicylic acid can often take 25 ounces without excreting sugar while taking a dram daily of some salicylate preparation. In no case, however, should the benefits of such drugs call for their continued use, as the action is in time lost, and the dangers of disturbing digestion are evident.

Various preparations of jambul work well in some cases, but here also the good effects disappear after a few weeks of the drug. Arsenic, the cacodylates, strychnia; none seem to have permanent cures to their credit. Alkalies are, strictly speaking, useless in raising the assimilating powers for carbohydrates, or diminishing glycosuria. They have won merit through the benefit derived by patients who imbibed the waters of various alkaline spas under conditions of exercise and diet that are of themselves beneficial; and by means of these various agents, graduated exercises, regulated diet, baths, diversions, an abundance of water, and so on, many of the annoying symptoms of the disease are ameliorated for a time. In the neurogenous form I have seen a trip to Europe absolutely abolish all symptoms; so that the patient passed no trace of sugar while eating anything—while she was abroad. Five days after her return to this country sugar was again present in the urine. This would seem to argue against a definite progressive pathological lesion, and lay the error to the nervous system alone. All cases should be relieved so far as possible from worry and household or business cares, and the mind should be cheered by agreeable diversions, since diabetics are prone to brood over their condition. Credit is due to Zimmer for having shown the benefits of muscular exercise, carefully based upon the patient's capacity.

The skin should be frequently bathed, as there is the well-known tendency to cutaneous complications, furuncles, pruritus and eczema. Constipation has been recognized as predisposing to diabetic coma, and should be properly combated. Rhubarb, bicarbonate of soda and sulphur in equal parts is a favorite composition. As much as will be held on the end of a table knife, taken at night, is a fair dose to experiment with.

The treatment of coma, once it has developed, holds out no hope. The use of tremendous doses of alkalies is theoretical, and while a few cases in which they were used intravenously may have shown temporary improvement, a cure of the condition is never to be looked for.

To sum up: each case must be treated as an entity. At first determine by an absolute diet whether sugar can be abolished from the urine. This accomplished, allow a single form of carbohydrate food in slowly increasing quantities, up to the point of excretion. Try to figure by tables of calories the amount of fat necessary to replace the diminished carbohydrates, and urge even a slight excess. Keep the proteids slightly above normal. Now and again, according to the age and severity of the case, insist upon one week's absolute regime, in order to rest the sugar-consuming function. Avoid drugs if possible, aside from tonics. Anticipate complications by examining the urine for acetone and its allies, and on their apparent increase remember the benefits possible from a course of oat-cure as outlined. Treat surgical complications radically. Always hold out the hope of cure to your patient if he will cooperate with you, and insist on

the hygienic rules as dictated by ordinary good sense. Remember that in those advanced in years the disease is frequently very benign, and needs little treatment beyond a reduction of the carbohydrates and an occasional week of strict diet.

HEMORRHOIDS OR PILES IN CHILDREN.

BY

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Hemorrhoids occur so seldom in children and are so transient in their duration that a lengthy description of all the varieties of this disease in a paper on the subject seems rather superfluous. Some attention, however, must be given to such cases as are within the range of possibility.

My experience has been that young children suffering for a long time with what are called hemorrhoids, are in reality suffering from prolapse of the rectum. Thrombotic hemorrhoids sometimes occur in children. At puberty there is a marked tendency to the formation of hemorrhoids, but prior to that time most authorities agree that their occurrence is infrequent.

A pile is a small tumor characterized by an increase of connective tissue and dilated blood vessels.

Etiology.— When present in children, hemorrhoids are probably most often caused by catarrhal proctitis. The ordinary adult causes given for this disease seem entirely inappropriate, as age, menopause, dissipation, violent exercise, liver, kidney, heart and malignant diseases do not enter into the woes of childhood, and we are confined to catarrhal and constitutional diseases almost exclusively.

Constipation is a most common cause undoubtedly, and when associated with violent straining may easily account for the presence of a thrombotic pile. Diarrhea of a protracted nature may cause hemorrhoids, since the irritation caused by the resulting catarrhal inflammation may produce more or less permanent swelling.

Children not properly clothed are liable to a sudden chilling of the body surface. This may bring about a congestion of the portal circulation which in turn so overloads the hemorrhoidal veins that hemorrhoids follow as a natural result.

Symptoms.— The symptoms are confined to the character of the hemorrhoids. The ordinary internal hemorrhoids present simply the protrusion of the soft mucous membrane mass which may be eroded and allow the escape of blood at stool. The mixed variety of hemorrhoid is covered by skin and mucous membrane and is likely to present symptoms of both the internal and external type. The chief symptoms of the external are pain and a tightened sensation at the anal orifice at stool. Defecation is painful, especially if the stool is hard and a fissure is present in either variety. To make a correct diagnosis, a visual examination is necessary.

In the thrombotic pile the hard mass formed by the extravasated blood gives pain on pressure produced either by the fecal mass itself or while sitting. Pain is almost the only cause for examination by the mother of the child. The internal pile is pulled up into the anal orifice as a rule beyond observation. The thrombotic pile is visible and easily recognized by its dark blue or whitish color.

Treatment.— The thrombotic hemorrhoid is treated most satisfactorily by excision of the mass of extravasated blood. A solution

of cocaine one part, and water five hundred parts, should be injected beneath the mucous membrane covering the mass and a longitudinal incision made down to the clot which will at once protrude. The clot may be easily picked out with a thumb forceps.

External hemorrhoids in children are best relieved by the treatment of the co-existing constipation or diarrhea. The surgical treatment of internal hemorrhoids without the correction of constipation or diarrhea is more likely to be productive of harm than good in children. When the condition is so pronounced as to give very annoying symptoms, in all probability the child is suffering from rectal prolapse of the incomplete variety and this is best treated by the clamp and cautery method under a general anesthetic. Care should be taken to decide before clamping how much of the mucous membrane is redundant and remove only the amount that will be necessary to constrict the orifice within normal limits. My rule is to excise a portion at each of the four sides of the rectum, after the prolapsed rectum has been replaced. When clamping the mucous membrane one should remember the proximity of the peritoneal fold dipping down anteriorly within one and a half to two inches in young children, and should it be necessary to attack the mucous membrane so high up, care should be taken to clamp only mucous membrane.

The palliative treatment of these cases is most unsatisfactory, with the exception of the strapping of the buttocks as suggested by Powell. Some treatment directed to the eradication of the constitutional or local disease is imperative in all, whether they are operated on or not, and without this constitutional treatment, success is never complete. For internal hemorrhoids, an ointment consisting of adrenalin and lanolin in the following proportions has been of some value to me as a palliative measure:

℞ Sol. Adrenalin, Mx
Lanolin, ʒi

Sig.—Apply liberally to the anal canal once or twice daily.

Constipation in these cases is best relieved by cascara or olive oil, in combination with grape juice if desired. The temporary use of an injection of cold water after breakfast for a period not extending over two weeks is a very good way to start the habit of moving the bowels at a regular time of the day.

290 Clinton Ave.

USE OF BISMUTH PASTE IN HYDATID CYST OF LIVER; REPORT OF A CASE.[1]

BY

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The accuracy with which hydatid cyst of the liver can simulate cholelithiasis, the importance of the blood examination in the diagnosis, and the result of probably the first application of bismuth paste in the treatment, offer sufficient reasons from an educational standpoint to report the following case in some detail.

L. P., a Greek, aged 29, single, waiter by occupation, referred to me by Dr. L. J. Lipset, was admitted to the French Hospital, May 5th, 1910, with the following history.

Five days previous to admission at midnight, was seized with severe pain in the right upper quadrant of the abdomen, which radiated to the back and to the right shoulder. The pain was so severe as to double patient up; increased by attempts at erect posture or efforts to walk. Slept for about one hour that night. Next morning

[1]Read before the Alumni Assoc. of French Hospital, Nov. 21, 1910.

felt well enough to go to the beach but suffered considerable pain during the ride, which abated to return with great severity on stretching in the prone position. Pain persisted to time of admission, with remissions, at times so severe as to impair respiration. The pain was confined exclusively to the right side of the abdomen. Vomited only once, on night following onset of illness about two hours after eating. No evidence of blood.

Jaundice first noticed the day following the onset of the disease, quite marked at the start but diminished gradually.

Appetite was always good till onset of illness, since then has been very poor. Eructations few and infrequent.

Bowels fairly regular till present illness, since when more or less constipated. Stools dark until present illness. Since, have been lighter in color.

Urinary symptoms negative.

Loss of weight, five pounds in the four days following onset of illness. Never noticed swelling of face or legs. No cough. No night sweats.

Past history.—Came to this country from Greece eight years ago and was in perfect health until three years ago when he had some gastric disturbance with no jaundice or pain or tenderness on the right side. Was improved by stomach washing. Patient never had typhoid, rheumatism or nervous disorders and denies venereal history.

Physical examination on day of admission.

Fairly well developed adult male, average frame. Face jaundiced. Eyes react to distance and light. Sclera plainly jaundiced.

Chest.—Heart and lungs negative.

Heart action good but slow.

Abdomen.—Right rectus muscle distinctly rigid. Rigidity extending from ensiform cartilage to a point about two inches below umbilicus. Left rectus completely relaxed.

Tenderness.—Point of greatest tenderness at McBurney's point. Tenderness also quite marked just below ninth costal cartilage on right side. Points of tenderness also found along the spine, most constant about the ninth or tenth dorsal vertebra.

Liver.—Dulness extends to a line nearly opposite umbilicus but we could not make out the margin of the liver below the costal arch.

Spleen not palpable.

Extremities negative. Knee jerks slightly diminished.

Jaundice general over body.

Thus far the history fits in almost exact detail the text book description of a stone in the common duct and would have been so considered but for recourse to the oft abused but inestimably valuable laboratory.

The blood examination showed a marked eosinophilia, drawing our attention to the possibility of a hydatid cyst. Intestinal parasites were ruled out by repeated examination of the stools, no ova or parasites being found.

Daily blood examination previous to operation gave the following results:

May 6th,	Leucocytes	17,900
	Polymorphonuclears	59%
	Large lymphocytes	12%
	Small lymphocytes	13%
	Eosinophiles	16%
May 7th,	Leucocytes	15,000
	Polymorphonuclears	53%
	Large lymphocytes	15%
	Small lymphocytes	11%
	Eosinophiles	30%
	Basophiles	1%
	Hemoglobin	95%
	Erythrocytes	5,044,000
May 8th,	Leucocytes	10,000
	Polymorphonuclears	32%
	Large lymphocytes	14%
	Small lymphocytes	23%
	Eosinophiles	30%
	Basophiles	1%
May 9th,	Leucocytes	17,800
	Polymorphonuclears	52%
	Large lymphocytes	24%
	Small lymphocytes	9%
	Eosinophiles	15%

With the exception of the day previous to operation there was a gradual increase of the eosinophiles while the leucocytes diminished. The symptoms, too, were ameliorated; the temperature which had gone up to 102.4 gradually came down to 99. The pain, tenderness and rigidity had nearly disappeared but the patient insisted on operation as he had no desire to go through a similar attack again, making another point in favor of a diagnosis of gall-stones.

The differential diagnosis rested between gall-stones, hydatid cyst, high appendix, parasite in the common duct and liver abscess. The two most seriously considered were stone and hydatid with a preference for the former owing to the typical history.

Operation.—On May 10th, I went in through a longitudinal incision along the border of the right rectus and on opening the peritoneum found the liver pushed downward to the level of the umbilicus and a large mother cyst about six inches in diameter on the upper surface of the left lobe. After carefully walling it off from the rest of the abdominal cavity with string pads, I opened the cyst and removed its large daughter cyst content. I also found four smaller cysts connected with the large one, which I emptied through the main cyst. After excising the redundant part of the cysts and thoroughly cleansing and sponging the cavities, I packed the cavity with gauze and inserted a large rubber drainage tube. The remainder of the cyst wall was sutured with No. 2 catgut in two layers and the wound closed in the ordinary way.

Post operative.—The patient was in good condition at the end of the operation, but went into shock that night. He was put on the Murphy continuous irrigation of hot salt and given caffeine sodium benzoate hypodermically, to which he responded only to take a bad turn the next morning, necessitating an infusion; 1,500 c. c. of hot salt being used. To this he responded well, his general condition improving from that time on. The packing was not disturbed until the eighth day after the operation, giving a better opportunity for adhesions to form between the peritoneum and cyst wall. The packing was renewed, and skin sutures removed, the wound having healed by primary union. A week later I started daily irrigations of the cavity with saline, the cyst by that time being well walled off from the abdominal cavity.

Bismuth paste.—On June 7th, or 28 days after the operation, I commenced the use of bismuth paste in an attempt to hasten closing of the wound. At that time there was still quite a profuse discharge but the man was in excellent condition and running no temperature. Using Beck's formula of bismuth subnitrate 33⅓% and vaseline 66⅔% and following his method, I injected while hot and in liquid form about 3 ounces of the paste through a rubber tube and closed the opening with sterile adhesive plaster.

There was no reaction, the temperature remaining normal and the discharge diminishing considerably.

On June 16th, or nine days after the first use of the paste, I injected four ounces more in the same manner, this time getting considerable reaction, the temperature going up to 103.6, to go down the next day and remain down. Two days later the discharge ceased and the wound was completely closed and on June 22nd patient was discharged from the hospital, the wound entirely healed and the patient's general appearance and condition excellent.

After the patient left the hospital I saw little of him, but when I did see him he informed me that the wound commenced to discharge again about two weeks after he left the hospital, so on July 18th, I again injected about four ounces of bismuth paste and the wound closed up to remain so till the present time.

The marked change and tendency to rapid healing following each injection show, to my mind, a strong possibility of shortening the often long delayed closing of these wounds, especially so when a more systematic application of the method is possible. The idea was suggested by successful use of the paste in empyema and though opportunity for its use in hydatid cyst doesn't come often to one man, owing to its infrequency in this country, it merits a good trial.

419 W. 34th St., N. Y.

MEDICAL HINTS.

BURNS.—Renner treats burns with a powder consisting of bismuth subnitrate, one part, and kaolin, two parts, the latter pulverized. The wounds are thoroughly cleansed to begin with, the powder is then dusted on thickly, and over all is laid a single layer of sterile gauze.—*Med. Standard.*

THE VASOMOTOR CONDITIONS IN SURGERY.

BY

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The man who sees any real antagonism between surgery and medicine thereby stamps himself as one of such partial and one-sided attainments as to render him an unsafe adviser in either of these two great departments of the healing art. Taking as our premise the proposition that our first and dominant object is the best good of the patient, and we thereby eliminate the element of our own personal interests, we as physicians stand ready to avail ourselves of the surgeon's skill whenever we see it is needed; and he must be equally ready to call on us when he sees reason for so doing. To do this judiciously each of us must be well up in the other's department.

Frankly, I believe that there are few internists who are not well posted on the possibilities and applications of modern surgery; but there is scarcely a surgeon in the land who is anything like as well up on modern medicinal therapeutics, or who realizes how much aid may be given him by its scientific employment. It is to illustrate this statement that I beg leave to present the following.

To the surgeon is due the credit of inaugurating the greatest advance in drug therapeutics of modern times, when the Emeritus Professor of Surgery of the University of Ghent, Adolph Bonggraeve, turned his attention to the remedies of the materia medica and their faults.

Naturally, the applications of drugs in surgical cases were not neglected. In the treatment of traumatisms he urged that the digestive forces should be sustained by the administration of quassin and sodium arsenate, and refreshed by a daily morning dose of laxative saline. Pure air he pronounced the one thing essential. To regulate the vascular conditions he gave aconitine and strychnine arsenate, three to six milligrams of each *per diem,* with quassin and sodium hypophosphite at meals to promote the digestion and compensate for the losses inflicted on the injured or operated patient by suppuration. If fever arose he met it with aconitine, digitalin and veratrine. Any tendency to chills called for quinine arsenate or hydroferrocyanide.

The application of antipyretics in traumatisms is illustrated by a case reported by Juhel: A man had been run over by a heavy vehicle, the wheel passing over his chest. Fifteen hours later his pulse was 95, the surface-heat elevated, breathing shallow. There were no ecchymoses or fractures, but the tenderness was extreme.

A wound was found under the right arm. Leeches were applied to the chest, followed by poultices, and it was bandaged to immobility. The ensuing fever was moderate. Venesection was employed next morning. The temperature rising at noon, he was given aconitine and veratrine, a milligram each every half hour until the pulse should have fallen to near normal. By evening he was sensible, his breathing was better, and he had taken three doses of the medicines. Next morning he was given a saline laxative and the granules were resumed. He was so much better that he was allowed to sit up. On the fourth day after the accident quinine hydroferrocyanide was added, in doses of three centigrams thrice daily, which completed the cure.

A woman had a small epithelial tumor of the uterus, which Pean amputated with the thermocautery. Metroperitonitis followed, which was treated by ice to the abdomen.

Filleau undertook the medicinal treatment, and gave the woman strychnine arsenate, three milligrams, for the depression. At 8 p. m. her pulse was 92, temperature 100.4°, and she was ordered aconitine and veratrine in half milligram doses, every fifteen minutes for six times. The night was tranquil, her sleep good. Next morning she complained of thirst, the pulse was 90, the abdomen supple and not tender. The ice was continued. To prevent the rise of fever the aconitine and veratrine were continued, until 8 p. m., adding strychnine arsenate, in all six half-milligrams. During the night she took four doses of aconitine and veratrine, but was not awakened for medicine. On the seventh day after the operation she sat up, and eight days later was dismissed.

The surgeon, Pean, was so impressed with the effects of what he termed "the marvelous granules" that he associated Filleau with another case. This was a woman of 64, from whom he removed a cancerous breast. Thanks to aconitine and quinine hydroferrocyanide she had not an instant of fever, and after a week left for her home cured.

The same surgeon supplied a third case—a girl of 28 years with a hard nodule in the breast, following an abscess. The axillary glands were involved. There was no specific taint. Filleau asserted that there would be no fever following the operation but Pean was skeptical. Before the operation the girl was given veratrine, strychnine and quinine hydroferrocyanide, and a laxative saline. The pulse never rose above 84, although the patient took food the day after the operation. Suppuration ceased on the sixth day, and on the fourteenth she was discharged.

Very many cases have been reported showing that treatment previous to operation goes far to prevent fever and other symptoms occurring. The bowels should be completely cleaned out, the kidney function tested to see that renal elimination is unobstructed; and the circulation studied carefully. Too great tension or force demands veratrine or aconitine; uncertainty, lack of tension or force, requires digitalin or strychnine; and the combination of these to meet the requirements calls for a doctor who is skilled in the study of the pulse—in other words in the recognition of vasomotor conditions.

The problem is the restoration of an accurate vasomotor or circulatory balance. As a rule this means the administration of aconitine to relax the spastic vessels and permits the outflow of blood from any congested areas, and the simultaneous administration of digitalin to restore tone to paretic vessels and squeeze out the surplus blood before lesions of the vessel walls have been occasioned.

That these two medicinal operations can go on at the same time is no more wonderful than that the two pathologic states exist at once. If debility predominates the digitalin is reinforced by the addition of strychnine arsenate, but if sthenia, plethora or deficient elimination is marked, veratrine aids the aconitine effectively.

We thus have the two great alkaloidal triad combinations, aconitine, digitalin and strychnine, and aconitine, digitalin and veratrine. With these two the vasomotor balance may be accurately maintained, the physician changing from one to the other as the condition of the patient's vasomotors is altered.

This regulation of the vasomotor state before operation has an influence that can only be appreciated by those who have applied the principle in practice. There can be no sudden failures or unexpected explosions of fever in patients thus provided for previous to the operative lesions. A firm grip on the vasomotors removes such "accidents" from the category.

The prevention of suppuration is not provided for exclusively by the most rigorous antisepsis or asepsis. The blood must be freed from fecal toxins, and the full nutritive supply be guaranteed to the shocked tissues by full tone and vigor to heart and arteries. Every part of our bodies is exposed to the attacks of micro-organisms, and whenever the vitality of any part is below the resisting point the invaders effect a lodgment and start a colony. Antisepsis diminishes their numbers but never completely frees the tissues from them. A full supply of pure nutriment is the *sine qua non;* and this requires pure blood, in full quantity, and normally strong heart and arteries to conduct it to the threatened parts. This is what we mean when we speak of regulating the vasomotor conditions.

In another direction there is equal need of scientific cooperation between surgeon and therapeutist. It is well known that operations on persons whose blood is contaminated with bile are perilous through the danger of hemorrhage. Either the bile contains a toxin that paralyzes the capillary vasoconstrictors, or the disabled liver lets into the circulation some toxin from the bowels that exerts this power; so that capillary bleeding is the dread of operators on the gall-bladder. But we have in atropine an alkaloid that powerfully stimulates the vasoconstrictors, increasing capillary attraction for the blood, and counteracts the relaxant toxins. Before operating on the liver therefore, the patient should be brought decidedly under the influence of atropine, if every trace of jaundice cannot be first dissipated by proper treatment.

Every good clinical observer has noticed the malign influence exerted over the patient to be operated by nervous apprehension, by fear. But only those accustomed to study vasomotor conditions appreciate the close relations between mental or moral depression and the vasomotors. The pulse here will be found wabbly and irregular, deficient in force and abnormally liable to the action of depressants. This is lessened by the administration of digitalin and strychnine, but it is more powerfully and directly remedied by an agent that removes fear and renders the patient cool and equable, content to entrust his or her case to the surgeon, and even dispassionately interested in the "case" from an impersonal standpoint. This desirable result is secured by the preliminary use of some dependable sedative.

Let the patient have the bowels completely cleared out and disinfected, the kidneys tested and found competent, and at bedtime the night before operation give one full tablet hypodermically; and when the preparation for operation is begun next morning the mental state will be found exceedingly improved. The results secured by the mental healers may as well be added to those attainable by correct scientific treatment, and better conditions will follow than if either is ignored.

The influence of toxemic states on the mental operations, and of mental states on the bodily functions, are alike legitimate subjects for our study.

When by proper treatment we influence the mind in the direction of healthy, normal thought and sentiment, we enter a field where the pseudoscientist cannot follow; but where he finds himself outdone in his own chosen sphere.

MASTOIDITIS WITHOUT APPARENT INVOLVEMENT OF THE MIDDLE EAR.[1]

BY

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In cases of mastoiditis we usually see a purulent discharge from the ear and changes in the drum membrane, generally associated with narrowing of the canal in its vicinity from swelling of the posterio-superior wall which here lies over the mastoid antrum. In certain infrequent cases, however, these signs are absent. I will report briefly four of such coming under my observation.

Case I.—W. H., male, age 51. Came under my care in June, 1908. He complained of fullness in right ear, but entire absence of pain. The drum membrane had its normal lustre and color but seemed to be depressed. Inflation sound appeared to be somewhat moist. On second inflation a few days later this moist element had disappeared and the ear so far as one could see was absolutely normal. One week later he had developed a swelling in the upper wall of the canal at its external extremity. This swelling was not tender on pressure nor did movements of the auricle elicit pain. It continued to grow larger and extended behind the ear, causing it to stand away from the head. Opening of the post auricular swelling evacuated a large quantity of pus and probe encountered bare bone, thus showing purulent collection to be subperiosteal. So, on July 1st, the patient was admitted to Dr. Dench's service at the New York Eye and Ear Infirmary, and I performed the mastoid operation. The bone was sclerosed throughout, except for one tract of cells extending from the mastoid antrum to the zygoma, which had broken down and formed an external exit for the pus. There was also a perisinus abscess. The patient recovered from the operation and went to work, the wound being practically healed in four weeks.

Case II.—S. L., female, age 25, referred by her physician on July 27, 1909. For three months had a small swelling behind the left ear which appeared just subsequent to confinement. Examination showed a hard, non-fluctuating mass behind and above the ear about an inch in diameter. The auricle seemed to stand away from the head. The external auditory canal, the membrana tympani and fundus appeared absolutely normal. I advised post-auricular exploration and at the infirmary I operated on the following day and found the mastoid completely broken down, a large perisinus abscess and large quantity of pus. The tympanic vault was completely walled off by firmly organized tissue which I did not disturb. Examination of the pus showed infection to be streptococcus capsulatus. The patient made a perfect recovery. At no time was there the slightest discharge from the canal. Wound was completely healed in five weeks.

Case III.—R., female, age 2½ years, was brought to the New York Eye and Ear Infirmary in November, 1908, with a swelling in front of the ear, which gave doubtful fluctuation. The swelling was diffuse and occupied region of the temporal muscle, extending well over to the external angular process of frontal bone. The ear did not stand away from the head. Dr. Dench examined the case and pronounced the external canal fundus and membrana tympani to be absolutely normal, but decided notwithstanding the aural condition to explore the swelling which proved to be a subperiosteal abscess in the temporal fossa arising from mastoiditis, perforating through the zygoma quite anteriorly. The

[1]Read at a meeting of the Eastern Medical Society, March 10, 1911.

mastoid was cleared out and the patient made a slow but complete convalescence.

Case IV.—Was in the service of Dr. Theo. Janeway in St. Luke's Hospital, at whose request I examined the patient. Wm. E., age 69, admitted July 25, died July 26, 1910. On June 7th patient began to have pain in his right ear which remained quite constant. There was, however, no discharge at any time. July 22nd, stiffness of the neck appeared, headache and fever came on with loss of appetite and vomiting. He became unconscious and was sent to the hospital, where he lay comatose; stertorous respiration with twitching and convulsive movements over whole body, worse on right side. Fluid from lumbar puncture gave short chained streptococcus. No choked disc. I examined him on July 26th, about six hours before death. His left ear was normal. On right side the lumen of the canal was narrowed by diffuse swelling at entrance. The fundus was not contracted and the color and lustre of the drum appeared normal. I advised decompression operation, making a mastoid exploration the first step. Subsequently culture of the blood showed presence of pneumococcus. No operative interference was undertaken. Autopsy showed extensive mastoiditis, sinus thrombosis and general purulent meningitis.

The route of infection in these cases may be through the blood or through the middle ear. In the former case we should have primary osteitis of the mastoid process. This must be very rare and I believe the usual route of the infection is through the middle ear, notwithstanding the fact that it seems to take so small a part in the process. The infectious material merely passing through the middle ear and not finding conditions favorable to its growth it produces no apparent symptoms or signs there. Not until it reaches the mastoid antrum, and this becomes walled off from the tympanum by closing of the aditus by inflammatory swelling, does the infective material proliferate and cause breaking down of bone tissue with consequent mastoid abscess.

In case II this wall of tissue had become firmly organized, completely separating the middle ear from the mastoid.

In making a diagnosis we are confronted at the outset by the absence of those signs upon which we are in the habit of relying. We can form no judgment from the amount and quality of the discharge, the changes in the membrana tympani and surrounding parts, for in these cases these signs are absent. Spontaneous pain is of very slight value as it may be due to neuralgia of one of the nerves extending behind the ear. Tenderness on pressure, while much more valuable, from a diagnostic point of view may also be due to unimportant nerve conditions. I have seen cases of neuritis and neuralgia in which the distribution of the pain and tenderness on pressure followed the course of the auricularis magnus or the small occipital. These conditions, as also hyperaesthesia over the mastoid which is not infrequent, must be eliminated before we can attribute the tenderness to mastoid involvement. Whenever one operates in a case in which the symptom most relied upon is tenderness on pressure, he runs the risk of being disappointed in his findings. How much more so when it is the only symptom. When, however, swelling and edema over the mastoid is associated with the tenderness and we can exclude other causes, especially furuncle of the canal, we have a clear case and the mastoid should be explored. As a matter of precaution all abscesses and tumefactions in the region of the ear should be looked upon with suspicion. The ordinary sub-periosteal abscess with its characteristic appearance, the auricle standing away from the head, may be easily diagnosed, but it is more difficult when the pus had made its way anteriorly beneath the temporal muscle as in case III,

and presence of fluctuation is doubtful. Again, the pus may find its way into the neck, giving rise to swelling and tumefaction below the mastoid process in the so-called Bezold's type.

The pus may appear on the posterior wall of the canal and simulate furuncle very closely. After study of the case, an exploration of the mastoid may be the only way to settle the matter. If the cause of the enlargement should be discovered before the bone is opened, so much the better. On several occasions I have found the condition to be a broken down post-auricular lymph node, and I have thereupon desisted from invading the mastoid. When without external signs or symptoms the disease invades the cranial cavity, we are confronted with a most difficult problem. Meningitis, if established by lumbar puncture to be of purulent form, and especially if the organism found is one of those usually causing middle ear suppurations, viz.: Streptococcus, streptococcus capsulatus or pneumococcus should direct our attention to the mastoid, and if no other cause can be found, especially in the nose or accessory sinuses; it should be opened either as part of or previous to a decompression operation. In sinus thrombosis we have characteristic temperature with absence of malarial parasites, and finally a positive blood culture, not only justifying operative interference, but making it imperative.

If we have made a diagnosis of brain abscess, located in the temporo-sphenoidal lobe or the cerebellum, in determining the method of operative procedure, we should bear in mind that nearly all abscesses in these locations are caused from aural infection, and the mastoid should be opened not only with the hope of removing the source of infection, but as giving the best possible approach for evacuation and drainage.

In case IV the presence of narrowing of the external auditory canal near its entrance impressed me with the possibility of this being a symptom of some diagnostic value in some cases. Asymmetry of the two canals with absence of indication of otitis externa would make us suspect the narrower canal even if the fundus remained of normal calibre.

105 W. 77th St., N. Y.

THE RELATION BETWEEN AUTO-INTOXICATION AND CHLOROFORM POISONING.[1]

BY

JEROME M. LYNCH, M. D.,

New York City.

Since I have made it a rule to have a complete urinalysis made including the sulphate of nitrogen partitions in all private cases previous to operation, my attention has been directed to the fact that those in whom auto-intoxication is pronounced are poor subjects for anaesthesia, as they seem to suffer more from nausea and vomiting for a considerable time after operation.

In looking over the field I can now recall some cases that unquestionably died from post-anaesthetic poisoning which at the time I supposed succumbed to sepsis. I am sure that there are a great many other cases that have heretofore been supposed to have succumbed to infection when in reality they died from post-anaesthetic poisoning. It occurred to me, therefore, that it would be interesting to bring before this society the question as to whether there is a relationship between auto-intoxi-

[1]Read before the Clin. Soc. of the Polyclinic Hospital, Dec., 1910.

cation and delayed chloroform poisoning, because with the wealth of material at your command you have an opportunity for clinical observation that is unequalled. Besides this is a subject that is of interest and for this reason I hope that everyone will take part in the discussion so that we may all learn something.

When I came to study the question I found that practically nothing had been written on the relationship of these two conditions. To be sure a great deal had been written on both subjects but nothing more than a suggestion here and there that there might be a relation between the two. Under these circumstances, in the absence of experimental data, I will simply bring to your attention the evidence that I have collected in favor of this theory, allowing you to draw your own conclusions as to the existence of this relationship. Notwithstanding the fact that Caspar, 1850, in a very able article, suggested the possibilities of the poisonous effects of anesthetics, especially chloroform, little interest was taken in the subject until Guthrie in 1894, drew attention to the following chain of symptoms in a case which came under his observation and which he believed died of chloroform poisoning; profuse and repeated vomiting, eventually blood stained and resembling shreds of beef; restlessness and excitement, delirium alternating with periods of apathy, jaundice occasionally, with unconsciousness deepening into coma.

Since then a number of articles have appeared, notably those of Brewer and Bevan and especially the experimental study of the metabolism and pathology of delayed chloroform poisoning on dogs, by Howland and Richards. This latter paper is very interesting because the urine was examined before and after the administration of the anaesthetic. Howland and Richards were able to produce chloroform poisoning by repeated administration of chloroform to dogs. The changes observed were a marked increase in the output of the nitrogen excretion and marked acidity of the urine, with a marked excretion of the neutral sulphur. After a very careful analysis of their experiments they were driven to the unsatisfactory and indefinite view that death was due to a toxic substance of unknown nature, due either to excessive formation of normal metabolic substances or to failure on the part of the organism to neutralize in a normal manner toxic substances normally formed.

We will digress here for a moment to speak of the sulphur bodies in the urine. The sulphur in the urine is chiefly oxidized and excreted in two forms, known as the preformed sulphates and the combined sulphates; the latter is also known as ethereal or conjugate sulphates. The sulphur in these sulphates is derived chiefly from the oxidation of the proteid material of the food, and about nine-tenths of it combines with the alkalies present in the body to form the preformed sulphates, while the other tenth unites with substances of the aromatic group, chiefly indoxyl, cresol, phenol, and pyrocatechin, to form the conjugate sulphates.

"There is also a form of sulphur which is not oxidized, viz., neutral sulphur, and appears in the urine in combination, as sulphocyanides, thiosulphates, oxyproteic and alloxyproteic acids, taurin, tauro-carbaminic acid, and, more rarely, as cystin. The neutral sulphur may form 10 to 25 per cent. of the total sulphur in the urine in health. Inasmuch as the sulphur content of the albuminous substances of the food varies considerably, the nature of the proteid taken in will alter somewhat the

amount of neutral sulphur. When there is any diminution of oxidation in the body, as in phosphorus, arsenic or alcohol poisoning, the neutral sulphur is increased, owing to the diminution in the oxidizing power of the tissues. The excretion of neutral sulphur is also increased in hunger and in pneumonia. An increased excretion has been noted in icterus, owing to the absorption of the sulphur compounds from the bile, and occasionally in cirrhosis of the liver with marked jaundice. The study of the excretion of neutral sulphur has as yet furnished no facts of clinical importance."

The questions to be solved are: Why is it that some cases suffer from chloroform poisoning and others don't?

What relationship exists between autointoxication and delayed chloroform poisoning?

If there is a relationship, what is the connection?

It surely seems that there must be some predisposing cause as only a small percentage of cases suffer from the toxic effects of the drug.

Admitting that there must be some cause the question arises, what is the predisposing cause. I am inclined to think that it is due to some previous toxaemia, whether it be intestinal or otherwise. To be sure chloroform has a direct poisoning or paralyzing effect on the heart muscles and contained ganglia, but this is not sufficient, as we have said before; there must be some other condition, otherwise all cases would suffer from chloroform poisoning after the administration of the anaesthetic.

It was shown by Herter and Wakeman that the living cells of the body, especially the hepatic and renal cells and the epithelial cells of the intestinal tract, have the power of absorbing considerable quantities of indol as well as of phenol and of tying them loosely in such a way that these bodies can not be recovered by distillation. Owing to this property of the cells, by which they hold these aromatic bodies while subjecting them to oxidation and pairing, the nervous system is screened from their action. The importance of this screening action is considerable, for the presence of the indol or phenol in very slight concentration in the carotid artery suffices to induce violent nervous excitation followed by a depression of nervous function. It is very noticeable that the capacity of different animals to remove indol from the circulation after intra-venous injections differ greatly in individuals of the same species. What is particularly striking is the fact that in those animals which do not possess livers capable of promptly removing the greater part of the indol, the nervous system falls a prey to the action of the poison. Conversely, it is also true that in those animals in which nervous systems are very pronounced after such injections of indol, it is found that the blood and brain hold considerable indol, whereas the liver may be shown to have fallen far below its normal capacity in the removal of the poison from the blood.

It may be regarded as settled that the liver, muscles, intestinal epithelium (and other cells) normally exert a protective action to the nervous system in screening it from the effects of an injurious percentage of indol in the blood by the ability of these structures to quickly bind any indol which comes to them. It may, moreover, be regarded as established that the same dose of indol administered to two human beings of about equal weight may regularly give rise to more pronounced nervous manifestations in one than in the other. While these inequalities may be due partly to differences in the rapidity of

absorption, no striking difference due to this factor was noticeable in the excretion of indican in the urine, and it appears more probable that the differences in the observed toxic effects were dependent on inequalities in different persons in respect to their ability to oxidize indol and to pair it with sulphuric acid. The probability that individual differences in the oxidizing capacity of the tissues of different persons might play a part in determining the toxic effects of indol make it desirable to get experimental evidence as to the influence of the imperfect oxidizing action of the cells on the fate of indol in the body.

There is a close inter-relation between intestinal toxaemia and the internal secretions. It is acknowledged that the internal secretions possess power to neutralize the intestinal poisons, but isn't it possible that if this process continues for any length of time, the internal secretions like the leucocytes succumb to the action of the toxines? In other words, the intestinal toxaemia causes degeneration of the glands of internal secretion. I presume the liver must be incapacitated before the toxins can reach the internal secretory organs, and if this be the case, then all the barriers that are provided by nature against the invasion of the organism by those toxins are practically destroyed.

It has been suggested, in fact seriously considered, that intestinal putrefaction is the most important etiological factor in acute yellow atrophy of the liver.

So little is known about the internal secretions and their influence on disease that one can not do more than venture a guess as to the connection between those cases of delayed chloroform poisoning and internal secretion. It has been found that suprarenal extract is a most beneficial drug in the treatment of those cases of post anaesthetic toxaemia. The pituitary body and the suprarenal glands are intimately associated and any injury of one or the other is apt to result in secretory disturbance of these organs. And that brings us to the question of the influence of the adrenals in the oxidization of the blood.

The adrenals secrete a chromogen, a colloid hyalin fluid which leaves the organs through the suprarenal veins and is mixed with the plasma of the venous blood in the inferior vena cava.

When the venous blood reaches the pulmonary alveoli the marked affinity of the adrenalized plasma for oxygen causes it to absorb the gas from the alveolar air.

The carbondioxide in the blood is thus forcibly replaced by oxygen and expelled with corresponding vigor.

The red blood corpuscles after the operation bathe in an oxygen-laden medium and their hemoglobin becomes reconverted into oxyhaemoglobin.

It has been shown that intestinal toxins stimulate the suprarenals and if this stimulation continues for any length of time we have insufficiency of the adrenals. As a result of this insufficiency, if the secretion is diminished we have a lack of oxygen in the blood and consequent deficient oxygenation. If the intestinal toxins stimulate the suprarenals and to this is added the stimulation from chloroform, we would infer that insufficiency would occur from over stimulation; as a result, imperfect oxidization, and as a consequence delayed chloroform poisoning.

What are the changes which occur in the liver?

The fatty liver is at once the most constant and most striking sign. The liver is large, of a bright yellow color and shows

pronounced fatty changes in its cells. The extent of these changes has suggested to some writers that a morbid state of the organ must have been present before the administration of the anaesthetic. The hypophysis is supposed to be the central station from which is conveyed the news to the suprarenal bodies that poisons are circulating in the system, thus causing those glands to secrete and by this secretion to neutralize the poisons. As a result of this increased secretion we have increased tension and this in a measure explains the reason why we have a high tension associated with auto-intoxication.

Wells says: "It is probable that many poisons may destroy the liver cells to such an extent that they cannot maintain their normal mechanical equilibrium without at the same time destroying the autolytic enzymes. When this occurs the liver undergoes autolysis and we get marked degenerative changes with appearances of amino acid in the blood and urine, reduction in the coagulability of the blood and humerous hemorrhages causing a picture both clinically and anatomically like typical acute yellow atrophy. Chloroform is a poison that stops cell cavities without destroying the proteolytic enzymes; hence the cells undergo autolysis and as a result we have many cases of what appears to be acute yellow atrophy following chloroform anesthesia."

The histological changes produced by autolysis in the remains after death are, as might be expected, much like those seen in necrotic areas. At first the changes resemble those of parenchymatous degeneration (cloudy swelling) and often there is an apparent increase in fat which is probably due to liberation of massed fat through the destruction of the proteid. (Seigert). Nuclear staining is lost and eventually even cell forms become indistinct. This is exactly the condition that has been observed in suprarenal insufficiency. We all know the anatomical relationship of the adrenals to the sympathetic. When the functions of the adrenals is reduced through pathological alterations (Addison's disease), or abolished by experimental extirpation, a number of characteristic constitutional changes follow. Most prominent is the profound muscular weakness, which is more marked by early fatigue than by weakness during a single effort. The decreased cardio-vascular tone is also striking, and a severe anaemia is usually present. Gastro-intestinal disturbance is marked, anorexia, nausea, vomiting, and diarrhea usually occurring.

According to Ehrmann, in acute infection in animals the amount of secretion present in the adrenals was increased.

Another feature worth observing is the arterial degeneration from adrenalin. This same condition is observed in chronic auto-intoxication. What are we to infer from all this? First that auto-intoxication causes a stimulation of the suprarenal glands of the adrenals.

Herter has shown by experiments that when animals were previously given small doses of cyanide of potassium and subsequently injected with indol, they suffered from marked symptoms of auto-intoxication, whereas the same dose administered previously had little or no effect. Cyanide of potassium is probably the most violent suprarenal paralyzant and it was found by others to produce, in sufficient amount and concentration, an instantaneous diastolic arrest.

Herter found that seizures could be brought about by local stimuli and re-

sembled the behavior seen in dogs etherized or chloroformed during the period of lessening consciousness which precedes that of complete anaesthesia. The animal refused food and water and showed signs of increased peristalsis. During the second day prostration and stupor were less marked, but uncoordinated movements were more frequent and associated with a state of delirium at times very violent. During the third day the condition was the same. During the fourth day the condition was the same, but the animal was weaker. Warm diluted milk given by a tube was instantly vomited. On the sixth day egg water was retained. On the 7th day death occurred. The brain was found to be soft and congested. The cortical nerve cells were found to be oedematous and showed excessive chromatolysis. The mucous membranes of the loop and of the duodenum and jejunum were considerably congested. The ileum was slightly congested. The total amount of potassium cyanide given to this animal was 0.061 gm. in six doses in three hours during the first period, that is before giving the indol; after the indol, that is in the second period 0.085 gm. was given in four doses in three-quarters of an hour.

The leading effects of the poisoning in this case were, first, a prolongation and intensification of the direct indol effects upon the nervous system, for example, the convulsive twitching; secondly, a delayed transformation of indol and a delayed excretion in the form of indican; third, gastrointestinal symptoms; fourth, blindness, and lastly, various mental symptoms. Other similar experiments were performed which clearly showed that when indol poisoning is preceded by the administration of physiological quantities of potassium cyanide the indol poisoning takes a wholly different course from that observed when indol alone is injected. As it is known that potassium cyanide depresses the ability of the cells to take up oxygen, it is reasonable to attribute to this depression in the oxidizing capacity of the body cells the failure of the organism normally to oxidize the injected indol. It is not unreasonable to suppose that in chronic disease in which the cells most concerned in oxidation, such as the liver cells, have been structurally damaged, that the ability to transform indol is less than in a state of health. Such alterations are common in human beings as a result of infections, alcoholism, intoxications, etc., and the experiments just quoted enable us to understand how under such pathological conditions the absorption of a moderate quantity of indol from the intestine may be more harmful to the central nervous system than is the case in persons whose cells have suffered little deterioration as the result of disease.

As to the effects of absorbed indol upon the organism in disease it is necessary to speak with caution, since there is no evidence that indol is the only toxic substance absorbed in those cases where it enters the organism from the gut. Some light is thrown on the question by experiments made through administering indol to normal men by the mouth. In one of these cases, a robust young man whose urine had been free from indican, felt no effect from large doses given under several days' administration, when the influence on the nervous system became distinct and led to irritability, headache, flight of ideas, etc. It should be noted that the quantity of indol administered in this case was probably in

excess of any amount that would be absorbed from the intestine, even in the most pronounced pathological condition. It would not, however, be safe to infer from this that smaller doses would have been harmless; for while such smaller doses might have produced little or no effect if given during a few days to a normal person it is not unlikely that its long continued administration would have led to symptoms. But here again it must be emphasized that the significance of indol absorption for the organism must depend largely on the ability of the organism to quickly oxidize and pair the indol to indoxyl-potassium-sulphate.

The idea that the circulation of free indol in the blood may act in a depressing manner upon muscular structures is suggested by the rapid muscle fatigue which comes on in some persons who have suffered for a long period of time from a high grade indicanuria. It is also suggested by the observations which I have made that moderate doses of indol by the stomach may be followed in normal persons by a sense of muscle fatigue, which has worn off rapidly on prolonged exercise.

We rather incline to think that Dr. Herter was dealing with insufficiency of the suprarenal capsule. In other words, he had produced over stimulation of the gland by the poisons he had injected, and if we study the symptoms and compare them with delayed chloroform poisoning, suprarenal insufficiency, we will find them due to over stimulation. Te be sure, Herter makes no mention of the pathological changes found in the liver of his dog, which is unfortunate as we might have learned more if we knew more of the exact changes which had taken place in the liver.

58 W. 58th St.

THE CLINICIAN.[1]

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By Morris Manges, M. D., New York

INFANTILE CEREBRAL PARALYSIS; REPORT OF TWO CASES.

BY

M. NEUSTADTER, M. D., Ph. D.,
New York.

These cases on the face seem very ordinary but they present some facts that are more or less interesting. The first boy is 18 years old. His mother died of tuberculosis. He is an only child. The stepmother deos not know about the early history except that he was two years old before he began to walk. His health was good up to the time he was eight and a half years old when he had diphtheria. After

[1] These case reports were presented at a regular meeting of the Eastern Medical Society, and it is believed that their diverse and interesting character warrant their grouping in this new department.

two weeks he had a convulsion lasting ten minutes and was for twelve hours in a comatose condition. Then he had attacks of fainting for two weeks for two or three hours daily. After that time he suddenly became paralyzed and had complete aphasia. He also was unable to swallow for two weeks during the aphasia. Control of the sphincter ani was lost. As you will see, he now presents a very marked degree of contraction of the wrist, with marked extension toe reflex.

The second case which is identical in every way is that of a girl, twelve years old who was perfectly well until six years old when she had scarlet fever. After one week, she became oedematous which was attributed to a nephritis which she had had for three months. After it subsided she one day had high fever, attended by haematemesis and bloody urine. This lasted twelve hours, following which she was comatose for two hours. After this she was paralyzed on one side but showed no aphasia. The characteristic of these cases is that neither of these cases have had any epileptic seizures which is the rule in infantile cerebral palsies.

These cases come to the physician for treatment and usually they care little for diagnostic *finesse*. They want to get well.

Lately I have had some experience in cutting the posterior roots and believe I have obtained some benefit in that way. These cases are presented with the hope that the question of treatment may be thoroughly discussed.

CASE SHOWING EPITHELIATION HASTENED BY SCARLET RED.

BY

M. M. STARK, M. D.

New York.

The case I desire to show here tonight shows the successful application of scarlet red. This scarlet red is a dye stuff which since 1906 has been used therapeutically for this particular purpose. It is applied in ointments of two to ten per cent., with ordinary bland base such as vaseline or lanolin. It is so irritating, however, that it cannot be applied for more than twenty-four hours, but can be used on alternate days for some time. It has purely a local action. It was discovered in 1906, when it was noted that its use in subcutaneous injection was followed by the development of a typical carcinoma, epithelial cells being reproduced in large numbers. It seems to stimulate the growth of epithelial tissues only, and since 1906 it has been very extensively used in cases where this result was desired.

The case here presented met with an accident, being impaled on the spike of a fence, in such a way that a large triangular area was torn from the back of the lower leg. A swinging flap operation was performed, but this, from the nature of the wound was only partly successful and the rest of the area had to be covered over some way. To this end we immediately began the use of scarlet red, with a particularly good result, although not in every respect. The virtue of the scar is that we are dealing with an epithelial scar and not fibrous tissue and we do not have the keloid growths which usually result in widely denuded areas. This remedy as a result of its action has special uses as in cases of vaccination, following amputations of breasts with extensive destruction of tissue, and in burns and skin grafting. The best way to use the stuff is in ointment form as described and one application and perhaps a second one will cover the entire area. The prompt epitheliation following the first application is not noted toward the end of a prolonged use.

Scarlet red is similar in character to carbolfuchsin and eosin. But these have a different action on the cells than scarlet red, which has a selective effect on epithelial tissue only.

In applying scarlet red the wound must be an absolutely clean one and this is the only caution which must be had. The wound must be free from pus and must be ready for the growth of epithelium, otherwise the dyestuff will be very irritating. The wound of this man took about two weeks to heal and considering that we had a very large area, I consider it a very good result.

RESECTION OF THE CLAVICLE.

BY

CHARLES GOODMAN, M. D.
New York City.

This boy was referred to my service at Beth Israel last summer with the following history. Six weeks before, he was struck across the front of the chest with an umbrella. He suffered a little pain for a day or two but there were no evidences of any swelling or contusion. Some three weeks later a swelling appeared in the region of the inner half of the clavicle and this swelling gradually grew to considerable size but without pain, so that some weeks later there was a fusiform swelling of the clavicle and the inner half of the clavicle was twice as large as the other. Patient otherwise normal. The question of diagnosis arose. There was no temperature. The swelling was hard, of bony consistency and had all the clinical aspects of a probable sarcomatous growth. We had a radiograph made of the clavicle and the report was that the showing indicated most probably a sarcomatous growth of the clavicle. The von Pirquet test was negative in results and the results from the Wasserman excluded the possibility of syphilis. With the probable diagnosis as above, the indications were for the removal of the clavicle and in order to obtain the best results, further delay was not entertained. I therefore had the boy prepared and removed the clavicle completely including the periosteum. The subsequent history of the case is of no importance. It healed completely.

My principal object in presenting the boy is to show how little the removal of the clavicle impairs the usefulness of the upper extremity. There is no reformation of the collar bone but the patient has perfect control of his arm. Microscopic examination showed that the case was one of extensive tuberculosis of the clavicle—not of sarcoma.

MEDICAL HINTS.

ENURESIS:—A very efficacious remedy for this trouble in children consists of equal parts of specific tincture of belladonna and of nux vomica, given in doses of ½ to 1 gtt. for children from seven to twelve years of age.—*Med. Standard.*

CASES DEMONSTRATING VALUE OF PHENOLSULPHONEPHTHALEIN IN ESTIMATING FUNCTIONAL ACTIVITY OF THE KIDNEYS.

BY

CHARLES GOODMAN, M. D.
New York City.

I desire to call your attention tonight to one of the more recent methods of estimating the work or efficiency of the kidneys. When we take into consideration the fact that the phenomena involved and the process of the secretion of urine by the kidneys is still largely a matter of speculation, it can readily be seen that any method of establishing the index of the capacity of the kidney must be accompanied with a great deal of difficulty. There have been many methods devised, all of them having their shortcomings. Tonight I will call your attention to one of the more recent methods.

Phenolsulphonephthalein is a chemical substance discovered in laboratory work by one of the professors at Johns Hopkins University. Dr. Geraghty, an assistant of Professor Young, explained the properties of this drug to me and I have since made some eighty odd tests with it, the results of which I respectfully bring to your attention.

The drug is administered by preference subcutaneously, a very small quantity being used, say 1-10 of a grain, in the arm. In a healthy individual it appears in the urine in from three to ten minutes after the drug is given. The value of the dye bids fair to become great because we have a way of accurately measuring the amount of dye recovered in a certain time, a condition which is not possible with other drugs. For instance in healthy people sixty to seventy per cent. is recovered at the end of two hours.

Percentage of recovery in two hours, 62½%. No reaction eight hours after the injection was given.

It is entirely eliminated by the kidneys and by the kidneys only. I would like to call your attention to a case which will demonstrate the importance of this test in

surgical conditions. When a surgeon is called to operate on one kidney, it is important to find whether the other kidney is able to sustain life. To illustrate, a woman, age 43, came into my service at the Beth Israel Hospital this summer, who had acute pain in the right lumbar and iliac region. She was sent to the hospital supposedly with appendicitis, although the trouble was in the kidney rather than the appendix. Cystoscoped the patient and catheterized the ureters. From the right obtained nothing. From the left a considerable quantity of clear colored urine.

I made the test under discussion and injected 1-10 grain of phenolsulphonephthalein. From the left kidney, there were only traces at the end of two hours when normally these should appear within ten minutes. The patient was radiographed. The radiographist of the hospital reported that the right ureter had a calculus and the left kidney showed several large calculi. The question now arose, "On which kidney shall we operate?" I decided that it was important to attempt to restore the function of the right kidney, and to this end I therefore exposed the right kidney and the right ureter. I found this calculus impacted in the first portion of the ureter causing complete plugging of the ureter just below the pelvis of the kidney. The kidney itself was very large and distended. The usual postoperative treatment was carried out. A few days later I injected phenolsulphonephthalein and was able to demonstrate that the right kidney was functionating by virtue of the fact that the dressings of the wound were very soon saturated with the dye. On July 26th, which was two weeks following operation, the functional test showed that the right kidney was able to demonstrate the dye in the urine in eleven minutes, while from the left kidney the dye was not recovered for one hour and twenty minutes.

On August 1st, the left kidney was exposed and we found the three large calculi and such complete plugging of the left kidney that two-thirds of it was absolutely functionless. Apparently only one-third of the kidney was functionating. On Oct. 1st, the phenolsuphonephthalein showed that the right kidney was functionating normally. I recovered the dye in ten minutes and from the left in 25 minutes. Had I depended entirely on the radiograph and less on the clinical examination of the case, I would have been enticed to operate on the wrong kidney first with the result that I would have lost my patient because with only a portion of the left kidney functionating and the right kidney wholly plugged, the patient couldn't have survived. The patient is making gradual but substantial improvement and is already in fairly good health.

In a case of enlarged prostate, there is always more or less of trouble with the function of the kidneys where there is obstruction to the outflow of urine. It is therefore important for the surgeon to know beforehand whether it is wise to subject the patient to operation.

I can report five cases in which the test was tried. In the first two cases the total output was less than in the other two cases where there was no residual urine. On the other hand in the case which gave the history of retention, with catheterization only a trace of the drug was recovered the first hour and 20% the second hour, which is less than half the normal.

I would emphasize the importance of this functional test in nephritis which makes it a most valuable addition to our armamentarium because, as far as I know, we have no other satisfactory way of establishing the index of the renal activity.

Case from Beth Israel Hospital. Young man with chronic interstitial nephritis. He only showed recovery of traces of the drug in two hours. The same day he developed convulsions. The prognosis of that case the same day was firmly established by the test.

Girl sixteen years old admitted to hospital had complete suppression of urine for 24 hours. She began to excrete some. The first specimen showed an output of 24%. She made a recovery. The kidneys had again commenced to functionate.

Another patient. Case of chronic interstitial nephritis with an acute attack. This patient although very ill was considered not in an extremely dangerous condition by the physicians observing the case. They thought she would recover from this attack. This test was applied and no trace of the dye was recovered. The patient expired within twelve hours showing that the

prognosis was firmly established in this instance by the absence of the dye in the urine.

One or two properties are of especial importance in placing this test before you for discussion. The advantages of this drug are these: The drug is not readily decomposed. It can be sterilized by boiling. Dose, six milligrams injected hypodermatically. Recovered in the urine as early as three minutes after injection. Within two hours from 50 to 70% of the drug should be recovered in the healthy state, in diseased conditions proportionately less. The drug lends itself to accurate measuring. The flow of urine excreted does not influence the amount of drug excreted. No matter how much urine, the amount of drug recovered will exactly show the index of the derangement of the kidneys. In a case of diabetes insipidus, a patient passed 1,150 c. c. of urine within two hours and the drug recovered showed almost the entire amount of the dye. The presence of pus or other extraneous matters does not interfere with the proper colormeter estimation of the amount of drug recovered. The technique is very simple. The injection is given, the time noted, the patient asked to void every five minutes in order to establish a time when the drug first appears in the urine. If there is no objection to the use of the catheter, the urine is collected for the first hour and for the second hour and the amount of the drug recovered is estimated and in that way we establish the work of the kidney.

DENTIGEROUS CYST OF THE ANTRUM OF HIGHMORE.

BY

WOLFF FREUDENTHAL, M. D.

New York.

This case was of a lady about thirty years of age. She had had no tuberculosis or syphilis. Six years ago while out west she contracted a severe cold and later developed an empyema of the antrum of Highmore. She went to Chicago and there a dentist drilled a hole in the superior maxilla and washed out the antrum. This was done continuously for two years but the symptoms did not disappear, so she went to a rhinologist in Chicago who did a radical operation. After this she thought she would feel better but the symptoms remained the same. She suffered a long time and then was advised to consult me. When I saw her, she complained bitterly of headache over the right side and a bad discharge from the nose which was purulent and foul smelling. Both these symptoms were extremely annoying and disagreeable. I examined her and found the typical symptoms of empyema of the antrum. To be absolutely certain, I had an X-ray picture taken. It gave a very good idea of the anatomy, and as it showed a distinct empyema, I did another, i. e. the second radical operation. I opened the antrum through the canine fossa when I was struck by the small size of the antrum. The naso-antral wall was bulging into the antrum very much, which was very unusual. After I was satisfied it could not be the naso-antral wall I went through it and found it was a dental cyst. I removed the whole mass and the patient in two weeks was entirely well.

EXOPHTHALMOS DUE TO EMPYEMA OF ETHMOID CELLS.

BY

WOLFF FREUDENTHAL, M. D.,

New York.

This patient was a gentleman 45 years of age, who was very fond of going out and imbibing freely. Last summer he went to Mount Clemens and got a cold there, which however disappeared quickly. When he came back he felt better but his physician noticed a swelling of the inner canthus of the left eye. The eye was bulging forward. The patient went to see several physicians. His eyes were examined and found normal, his heart was normal, chest normal. He was taken to an ophthalmologist and nothing was found and finally he was sent to a rhinologist and I was consulted. There was quite a marked swelling at the inner canthus which was painful on pressure. On examination nothing was found except swelling of the middle turbinated body. No pus could be found by washing out the various sinuses.

It was proposed to open the ethmoidal sinus. Part of the middle turbinated body

was removed, one ethmoidal sinus was opened and nothing found. Another was opened with same result, but finally in the third cell quite a good deal of a brownish purulent mass came out. There were at least one or two tablespoonfuls of it. In two days he came back and I opened into the frontal sinus and got out half a teaspoonful of pus again. This case presented a good deal of trouble, but ultimately made a good recovery.

BLINDNESS DUE TO EMPYEMA OF THE SPHENOIDAL SINUS.

BY

WOLFF FREUDENTHAL, M. D.
New York.

This case was a gentleman of 33 years of age, who came to me in September, 1908, complaining about a painful dullness in his head, with some pain radiating from the nose. His greatest trouble, however, was his fear that he was losing his eyesight in the right eye. On careful examination I found an empyema of the sphenoidal sinus of the right side. At that time there was no involvment of the ethmoid cells or of the frontal sinus. The patient in despair had gone from one doctor to another. In the course of his search for relief, part of the ethmoidal cells were removed by one physician, but strange to say the sphenoidal sinus was never touched. He came back to me two years later with the right eye totally blind. Dr. Shirmir wrote: "The condition was perfect in the left eye a year ago, but has now come to what is seen on the drawing." The man was now getting along to a point where he might lose the sight of his left eye too. I examined him again and found the sphenoidal sinus full of pus, and this time the ethmoidal sinus also.

I opened the sphenoidal sinus through the nose. Ordinarily I consider this a dangerous procedure for we never know when we may go through the posterior wall with results that need no comment. Sometimes this wall is very thick and sometimes as thin as paper. Not a few cases have been reported where very good rhinologists have entered the brain cavity and caused severe hemorrhages. With the utmost care and gentleness I washed out the sphenoidal sinus, affording the patient such marked relief that he said, "That's the first time, Doctor, my head has felt clear." As soon as the patient's condition warrants we will probably have to open up the frontal sinus and do a radical operation.

OBSCURE SEPSIS AND HEMORRHAGE CURED BY TRANSFUSION.

BY

MORRIS MANGES, M. D.,
New York.

This first case was one of sepsis and hemorrhage, that was cured by transfusion. Woman 17 years old, admitted to hospital Nov. 15th, 1910. Family history and personal history negative except for almost continuous bleeding from vagina for about eleven weeks previous to coming under observation.

Her condition at time of examination was that typical of an extremely marked anaemia, with bleeding from vagina and very bad general condition. Small alveolar abscess in left lower jaw; systolic murmur over whole cardiac region; two petechiae on toes of left foot. Her uterus, tipped posteriorly, was about normal.

Blood examination showed haemoglobin 21%, red blood cells 2,128,000, white blood cells 13,600. The blood showed poikilocytosis and anisocytosis, with usual irritation forms and normoblasts. Coagulation time 7 minutes. With utmost care I looked for a cause of the septic state independent of the bleeding. None could be found however. The stools and urine were thoroughly interrogated for an explanation of her marked anaemia but nothing was found. Finally, no cause for the sepsis being found, I came to the tentative conclusion that possibly retained blood in the vagina or uterus was causing the sepsis, but vaginal examination simply showed a slightly flexed uterus with nothing abnormal or unusual about it. During her stay in the hospital in spite of everything I did for her, although the bleeding was stopped, she steadily became worse, temperature ranged from 99½ to 103½ in the afternoon and finally twelve days after admission the

blood showed 1,200,000 red cells and the haemoglobin was down to 16%. As a dernier resort transfusion was proposed and accepted. The operation was performed by Dr. Elsberg and the haemoglobin was raised to 48%. The operation was well borne. The temperature rose to 104.8, a scarlatinous eruption developed and lasted two days, hemorrhagic spots appeared on the mucous membranes after the operation. Three days after the operation the haemoglobin was up to 52%, in a week to 65%. She then had a normal menstruation. A few weeks ago the haemoglobin was up to 70% and the girl was perfectly well.

I am sure the only thing which saved this girl was the transfusion and I would recommend that in all of these hopeless septic and anaemic cases a transfusion be tried invariably.

As a contrast to this result, a very advanced anaemia in a woman somewhat older than this one, also running a septic temperature, died before transfusion could be performed, showing what we have to expect in these cases, unless some such radical measure is taken advantage of.

In neither of these cases could the cause of the sepsis be discovered; every possible examination failed to reveal the cause.

LOBAR PNEUMONIA SIMULATING ABSCESS OF THE LIVER.

BY

MORRIS MANGES, M. D.,
New York City.

Woman 46 years old, admitted Nov. 25th, 1910, with every diagnostic sign and symptom pointing to abscess of the liver.

The illness for which she sought treatment began two days before admission with fever and malaise; the next day she had a bloody movement. The same evening she complained bitterly of a right hypochondriac pain referred to region of gall bladder. No radiation; vomited several times, but had no jaundice, no chills, no cough, and had never had any appendicular attacks.

On examination the respiration was superficial, the rate was 26. Marked tenderness was found on direct pressure over liver, also in intercostal spaces and on compression of chest. There was some oedema of chest wall over liver. Examination of lungs, except for a few pleural crepitations heard low down anteriorly and some diminution of voice and breathing on right side, was practically negative. Liver was outlined in midclavicular line from the fifth rib to two fingers below the free border; behind, upper level at ninth dorsal vertebra. Marked tenderness of abdominal wall over liver. No rigidity. W. B. C. 24,000, polynuclears 92%. Temp. 104.2.

To determine whether or not there was anything in the pleural cavity on account of the high flat area, the patient was fluoroscoped by Dr. Jaches. A very fair view was obtained showing that there was absolutely nothing in the lung. The most striking thing was that the diaphragm was unusually low on the right side. Here there was a dullness reaching up to the fifth rib anteriorly and to the ninth rib posteriorly and yet the X-ray picture showed the chest absolutely negative.

Aspiration in the anterior axillary line was negative.

On Nov. 27th, respiration 30, pulse 110. Herpes on right lower lip. Hepatic tenderness much less. No definite lung signs.

Nov. 28th. Slight cough. Herpes on left side.

Nov. 30th. In a small area below and to either side of angle of right scapula and in another area just to right of sternum, there was increased voice, distant bronchial breathing and some crepitant rales, otherwise hyperresonant note over whole right chest. At right apex signs of consolidation. Note over whole right chest was of tympanitic character.

Dec. 4th. W. B. C., 21,000. Crisis with drop of temperature of 50; throughout the entire illness the fever had steadily remained between 103° and 104°.

Urine, except for an occasional trace of albumin and hyaline casts, negative. No chloride retention.

Blood culture and Widal negative.

That this was an atypical pneumonia was shown by its course and termination.

When patient had convalesced she was again fluoroscoped; the diaphragm was no longer high on the right side, but occupied its normal situation.

The presentation of the case was concluded by a brief discussion of the differential diagnosis of pneumonia, appendicitis and subphrenic abscess, and their close inter-relations were discussed. Illustrative cases were briefly detailed to show how readily the symptoms of any of these conditions might for, at a time, at least, be simulated by the others.

Note. Since this case was presented I have seen another case which was somewhat similar to it. A boy 14 years old who had been operated on for a gangrenous appendicitis four weeks before was admitted to my ward in Mt. Sinai Hospital with a temperature of 104.5°; respiration 30; pulse 120; complaining of great pain in the upper abdomen and great prostration. His appendiceal wound was not yet healed; the liver was generally enlarged, especially upwards, and there was great tenderness in the axillary line over the liver in the 9th and 10th spaces. The leucocyte count was 25,000 with 86% polynuclears. In view of the history it was most natural to assume that the case was one of subphrenic abscess or abscess of the liver secondary to the appendicitis. Aspiration of the liver in the tender areas was negative. Two days later typical signs of consolidation appeared in the right lower lobe; the pneumonia ran a short, severe course, but the boy recovered.

It is to be noted that in this case there were no pleural rales which might have been referred to a diaphragmatic pleurisy.

GYNECOLOGICAL HINTS.

The standard solutions of nitrate of silver for use in gynecological practice are as follows: 1. For the cervix, 40 grains to the ounce. 2. For the vagina, 30 grains to the ounce. 3. For the external genitals, 15 grains to the ounce.—*Inter. Jour. of Surgery.*

Frequent and painful urination in women is often due to urethritis which can be cured by the proper use of solutions of nitrate of silver.—*Inter. Jour. of Surgery.*

CORRESPONDENCE.

NEURASTHENIA GASTRICA.

Editor American Medicine:

In the April issue of your esteemed journal Dr. Alfred A. Robinson of Ogden, Utah, writes on Nervous Dyspepsy. The classification of stomach neuroses in medical literature is endless. During the seventeenth and eighteenth centuries many forms of gastric disorders were called nervous dyspepsy which, with the development of pathologico-anatomical discipline during the middle of the nineteenth century, were found to have anatomical conditions as cause, and the existence of purely nervous dyspepsy was denied. Again in 1879 Leube formulated a system of description of nervous dyspepsy which is entirely theoretical and very indistinct. Many writers then assumed that cases of so-called nervous dyspepsy, for which no anatomical basis could be discovered, were manifestations of general neuresthenia or hysteria. Dr. Robinson attributes nervous dyspepsy to almost the whole medical clinic: phymatiasis (barbarously called tuberculosis) anemia, malaria, influenza, chronic prostatorrhea (a thing which is an impossibility—running of the prostate gland) constipation, spermatorrhea, phosphaturia, etc. According to this system every form of dyspepsia will have to be considered as nervous dyspepsia. Studying the relations of atonia gastrica to gastric and some nervous disorders we arrive at the conclusion that many cases which have been diagnosticated as hysteria, neurasthenia or nervous dyspepsy are nothing but manifestations of atonia gastrica, and this fact, which I have demonstrated in my book, "Atonia Gastrica" and more recently in a paper, "Is Nervous Dyspepsia a Disease sue generis?" (*N. Y. Med. Journal*, Sept. 1, 1906) has not been noticed by by Dr. R.; he says, "Before a diagnosis of neurasthenia gastrica is arrived at it is necessary to exclude all organic lesions of the stomach as well as *ptosis of the viscera* and the stomach must occupy the normal position." I beg to doubt that there exist cases of nervous dyspepsia without atonia gastrica but I am certain that

in most cases like in those related by Dr. Robinson it has been ovelooked. I know from experience that no attention is paid to the presence or absence of splashing sounds.

A. ROSE.

173 Lexington Ave., New York, May 7th, 1911.

LITERARY NOTES.

An excellent little work by Dr. Abr. L. Wolbarst, entitled "Gonorrhea in the Male[1]—a practical guide to its treatment" has just been published. The book consists of about 175 pages, and is well written in terse style. Technical details are fully explained and made readily understandable by the average physician. The work is amply illustrated.

In the preface the author says that he wishes it to be distinctly understood that this is not another text book that he is presenting to the medical public but a series of articles which have already appeared in the *International Journal of Surgery,* revised and brought up to date. His object is to present the subject of gonorrhea in such a manner as to offer the general practitioner a working knowledge of the disease and a practical method of treating it successfully. In his estimation some of the prevailing methods of treating gonorrhea are too harsh, both as to medication and instrumentation. His plea is for progressive conservatism.

It is stated in this book that according to modern statistics seventy percent of all married women seeking treatment for diseases of the pelvic organs are suffering from gonorrhea or its complications acquired innocently from their husbands and that from seventy-five to ninety percent of all gynecologic surgical operations are the direct or indirect result of gonorrheal infection. This is a serious state of affairs when we consider the effects on sterility and depopulation.

As a result of long experience the author has come to the conclusion "that as the gonococcus has a tendency to remain latent in the prostatic follicles long after the disappearance of clinical symptoms, it is impossible to tell whether a patient once attacked by the gonococcus is absolutely free from latent infection." This is an important fact which should be carefully borne in mind by the physician when he is consulted by an apparently cured patient, as to the advisability of his marrying.

Taken altogether it is a book that may be said to be full of meat. It ought to be on the desk of every general practitioner and would not be out of place in the working library of the specialist in genito-urinary diseases.

[1]**Gonorrhea in the Male.**—A Practical Guide to Its Treatment. By Abr. L. Wolbarst, M. D., New York City. Published by International Journal of Surgery Co., 100 William St., New York City. 1911. Price $1.00, postpaid.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Chronic Prostatitis.[1]—In his article, Riebal says inasmuch as the history of chronic prostatitis, seminal vesiculitis and chronic posterior urethritis are similar one can only make a differential diagnosis by an examination of the patient. First, palpating the prostate per rectum. Second, microscopic examination of the fluid expressed from the prostate. On palpation the prostate is found to be uniformly enlarged and tender, the right or left lobe only involved, or an irregularity on the surface of the prostate, which indicates that only a few tubules are affected.

To distinguish between prostatitis and seminal vesiculitis is at times impossible on account of the seminal vesicles also being involved at the same time. On palpation of the prostate it is found that the secretions are more easily expressed than in normal conditions. This is what is termed the expressive-urine test which is made by massaging the prostate through the rectum expressing the contents of the prostatic tubules. In a normal prostate, after massage, the urine is milky from mixture with prostatic fluid while in diseased conditions flakes, masses and strings are formed by the thickened prostatic secretions. By inspection of this we cannot always form a correct opinion, and a centrifugal and microscopic examination must be made.

Under microscopic examination if no pus is present prostatitis can be excluded. The normal prostatic fluid is found to contain many elements—mucus, granular phosphates, oxylate of lime, calcium phosphates, etc. (2) epithelium from the bladder, glands and ducts. (3) Amyloid bodies occur most often in older subjects. (4) Phosphatic concretions are also found in older subjects. (5) Boettschner's crypts. (6) Spermatozoa are usually found under all conditions.

[1]J. R. Riebal, M. S., *Med. Brief*, May, 1911.

The Microorganism of Typhus Fever.—Another of the infectious diseases is yielding up its secrets to the persistence of the investigator, says the *Medical Record*. The infectious agent of typhus fever has been proved to exist in the blood of patients suffering from the disease, the virus has been transmittted through long series of monkeys, and the *Pediculus vestimentorum* has been demonstrated to be the chief if not the only agent whereby the infection is carried from one individual to another. The ultimate cause, however, has proved very elusive.

Predjetschensky (*Centralblatt für Bakterienkunde*, etc., 1 Abt., Bd. 55, Heft 3) describes an organism which he has succeeded in isolating from the blood of these patients. He was able to obtain pure cultures only by inoculating 200 c.c. of bouillon with from 2 to 5 c.c. of blood, drawn between the sixth and ninth days of the disease. It is described as a short, fairly thick bacillus with rounded ends, occurring singly or in chains. It is actively motile and is not stained with Gram. Bouillon is uniformly clouded with the formation of a grayish precipitate. Milk is coagulated in 3 or 4 days, gelatine is not liquefied. On slant-agar it develops as an elevated growth with a glistening grayish-white film, the water of condensation being changed into a cloudy, gummy mass. On potato it forms a thick dull-gray film which later becomes brownish, without the presence of gas bubbles. In dextrose bouillon it forms no gas but does produce acid. It does not form indol. On the Conradi-Drigalski medium there are produced raised blue colonies which after three days are surrounded by a rose color; on Padlewsky medium with malachite green, golden yellow colonies from which begin to show a green tinge in three or four days.

The organism was agglutinated by the serum of typhus patients in a dilution of 1-10 in 1 hour, and of 1-40 in 4 hours, while controls with the serum of persons in health or suffering from other diseases showed no agglutination. Mice, dogs, and guinea-pigs inoculated with a pure culture developed a fever and died, and the bacillus was recovered from their organs. The author was able also to cultivate this organism from the sputum of his patients and he thinks that its presence here may be the chief factor in the spread of the disease. This bacillus is, apparently, not unlike the one which Ricketts and Walker found in stained blood smears and which, in their opinion, belonged to the hemorrhagic septicemia group.

The Etiology and Diagnosis of Intestinal Indigestion in Children.[1]—According to Griffith the most frequent cause is persistence with the ingestion of carbohydrates. Any starchy food may give trouble, but potato is one of those most liable to do so. The giving of candies and other sweets, allowing the child to eat when it pleases between meals, in some cases an excess of fat in the food, and swallowing without sufficient mastication, are among other dietetic influences. Food of any sort which is poorly prepared, or of an indigestible nature, is likewise a cause. The disease is consequently common in children who receive food from the family table at too early an age. Apart from these factors any debilitated condition of health predisposes. Consequently the disease is frequently associated with rachitis, or occurs after some exhausting, acute disorder. Age is important, the majority of cases developing especially in children between three and ten years old. As in infancy the disease is a functional disturbance, no lesions of the intestines being present, except perhaps injection of the mucous membrane and an increased secretion of mucus.

Symptoms.—In well developed typical cases the symptoms are very characteristic. There is very decided loss of flesh, the limbs especially being thin, and the child having a delicate appearance, with an anemic or sallow complexion, dark rings or puffiness under the eyes and perhaps sometimes a slightly yellowish tint to the sclerae. The pallor is sometimes replaced for a time by a red flush of the cheeks; on other occasions shows a great temporary increase, as though the child were faint or nauseated. The appetite is variable and capricious and generally poor, although in some instances excessive. Eructation of gas is common, as is its passage per rectum, and the abdomen is usually distended and tympanitic. This abdominal distention is one of the most characteristic symptoms. Nausea and vomiting may occasionally occur if the stomach shares in the dyspeptic condition, but in some cases vomiting and headache appear to depend upon intestinal toxemia. The tongue is pale, flabby and perhaps tooth-marked; sometimes coated, sometimes exhibiting enlarged papillæ. It has seemed to me that the geographical tongue is particularly liable to be found in this disease. The breath is offensive in some cases. The condition of the mouth and tongue, however, depend largely upon associated gastric disturbance. The bowels are usually constipated, or constipation may alternate with attack of diarrhea. The color of the stools is generally pale and sometimes nearly white; or at other times brownish. They are very offensive in odor, contain undigested food, and when loose are often frothy in appearance. Mucus is passed at times, sometimes in large amounts, the evacuation being generally accompanied by colicky pain. The mucus is mixed with the stool when this is loose, or coats it when formed. The element of abdominal pain is very variable, being somewhat colicky and paroxysmal, but oftener slight, and sometimes only reaching a sense of abdominal discomfort. The urine is not characteristic. At times it may show the presense of indican in considerable amount or of other bodies denoting digestive disturbance. The nervous symptoms are many and varied.

[1] J. P. C. Griffith, M. D., *Archives of Pediatrics*, May, 1911.

In fact, they are the most prominent manifestations of the disease and may then readily deceive the unwary. Although mentally unaffected and often very bright, the child is irritable, languid, easily tired, and incapable of sustained mental or bodily effort. The hands and feet are cold, and the skin perspires readily. Sleep is nearly always restless and tossing, with frequent grinding of the teeth. Outcries and dreaming, and not infrequently night terrors, occur in these cases, as does walking in sleep. Wakefulness is not uncommonly a symptom. Attacks of faintness may occur, while in other cases there may be periods in which there is stupor or even convulsions. Convulsions in childhood are, indeed, often considered to be a manifestation of epilepsy when really dependent solely upon a chronic intestinal derangement. Shortness of breath is sometimes a symptom, or the respiration may occasionally be sighing in character. In other cases asthmatic symptoms may be of digestive origin. There is usually little or no fever, or perhaps the constant presence of slight elevation of temperature of less than 100° F., except during the occurrence of exacerbations, when the temperature rises considerably. The pallor of the skin has already been alluded to. It does not necessarily depend upon an actual anemia. In some cases the skin is unnaturally dry; in other cases there is an urticarial or erythematous eruption. The general health suffers and the children develop poorly in height and weight.

The group of symptoms described is not seen in its entirety in every instance. In the milder cases, or those which have lasted but a short time, the disease is rather a series of acute attacks of moderate severity with intervals of comparative health and with but little influence upon the general condition. In other cases symptoms of a severe type, with a degree of wasting suggestive of pulmonary tuberculosis, are attended by the passing from the bowel of unusually large amounts of mucus. To this complex of symptoms the title "mucous disease" was applied by Eustace Smith.

Diagnosis.—The nervous symptoms may be confusing if the condition of the digestion is not carefully studied, but with this exception the diagnosis is usually not difficult. The slight cough which often accompanies the wasting may suggest pulmonary tuberculosis, but examination of the lungs fails to reveal any anomaly. Tuberculous peritonitis exhibits tenderness and either the presence of fluid or some evidence of deposit in or thickening of the abdominal walls. The presence of intestinal worms often causes grinding of the teeth, abdominal pain, disturbed sleep and other nervous symptoms, but the administration of a vermifuge will reveal the cause. A careful and even a microscopic examination of the stools may be required to prove that food is passing in an undigested form and to show what its exact nature is.

The Presence of Bacilli in Healed Tuberculous Lesions.[1]—Just what constitutes healing of a tuberculous lesion, says the *Journal of the American Medical Association*, is a matter of much importance and great uncertainty. It is now recognized that nearly all adult bodies contain calcified, fibroid, or encapsulated caseous tuberculous lesions, chiefly in the lungs and lymph-glands, and such lesions are commonly looked on as healed and devoid of danger. Recent studies, however, have demonstrated that the tubercle bacillus has remarkable powers of resistance which permit it to remain viable in the tissues of the host for great lengths of time, and even without producing lesions. It may be recalled that various investigators who have injected material from the lymph-glands and tonsils of cadavers into guinea-pigs, have produced tuberculosis in as high as 20 per cent. of the animals, although the glands were themselves free from either gross or microscopic evidence of tuberculosis, and were from bodies which showed no tuberculous lesions. Such a condition constitutes a true latent tuberculosis, even although there are no specific tuberculous lesions, and its apparent frequency makes us more lenient than we otherwise might be to von Behring's theory that bacilli taken in cow's milk during infancy and remaining latent during youth and adolescence constitute an ordinary source of tuberculosis in adults.

The cases in which a tuberculous lesion shows anatomic evidence of quiescence, yet contains living and virulent bacilli, should be regarded as persistent rather than latent tuberculosis. Apparently caseous tubercles practically always contain living bacilli, even when their progress has been checked and they are surrounded by a well-defined fibrous capsule. Until recently it was assumed that when calcification had taken place the lesion had been so long encapsulated that all the bacilli must be dead, but actual investigation has made it necessary to modify this view. Lydia Rabinowitsch injected into guinea-pigs material from four calcified lymph-glands of stony hardness, and in all cases tuberculosis resulted. E. Schmitz examined calcified nodules from twenty-eight autopsies, and could find tubercle bacilli with the microscope in but two; but of thirty-three guinea-pigs inoculated with material from as many calcified nodules no less than thirteen became tuberculous. As was to be expected, positive results were obtained much more frequently with material from the chalky or caseo-calcareous areas (75 per cent.) than with those of stony hardness and presumably greater age (27 per cent. positive). An important fact is that the tuberculosis produced by such inoculations was of a mild character, only one of the infected animals dying spontaneously from tuberculosis. By use of

[1]Editorial, May 6, 1911.

the new alkaline hypochlorite method Wegelin[1] has been able to demonstrate the tubercle bacilli much more frequently in calcified lesions, in each of three chalky and in four of ten hard calcified nodules bacilli being found.

We must, therefore, conclude that even when a tuberculous lesion has become encapsulated and calcified it is still a possible source of danger, since it may contain living tubercle bacilli. Nevertheless this danger is more potential than actual, for the mechanical protection afforded by the capsule and the lime salts must effectually prevent invasion of other tissues by the bacilli, and we have no observations which indicate that a calcified lesion is often, if ever, the starting-point of a fresh infection. Possibly if a suppurating process, or some trauma, disintegrated both capsule and lime deposits the bacilli might be set free, but even then serious trouble is not probable, for, as Schmitz' experiments have shown, the encapsulated bacilli are of such low virulence that even the susceptible guinea-pig can resist them successfully.

TREATMENT.

The Treatment of Chorea.[2]—Chorea, says Coombs, is to be treated like other manifestations of active rheumatic infection, by rest in bed and salicylates, while there is any evidence of activity, such as pyrexia (however slight), arthritic pains, the appearance of subcutaneous nodes, tachycardia, loss of flesh, increase in the choreic movements and of the mental disturbance, increasing dilatation of the heart, and persistent or increasing anemia. Salicylate treatment during that stage of chorea in which the lesions are being established has a favorable influence. In chronic cases, already on the road to recovery, there is no need to give salicylate, the cause, active rheumatic infection, has already been removed. Neither are we to expect that chorea will be aborted by salicylate treatment; for if even the salicyl compounds were absolute specifics for the destruction of the infective agents and the toxins of rheumatism, when treatment begins the toxins have probably already entered into indissoluble chemical union with the protoplasm of the cortical cells, and only time can undo the bond. The usefulness of the salicylates lies in their power of preventing further damage by the toxins of rheumatism. Huge doses of sodium salicylate do not act more powerfully in chorea than a moderate dose of 10 to 20 grains every 4 hours, according to age. In severer cases the dose should be more frequently given, every hour or two hours, for the first 12 or 24 hours. Twenty or 30 grains of bicarbonate of soda should be given with it, and the bowels must be kept open by salines. After the active period salicylate should be gradually left off. The same applies to the rest in bed which is absolutely necessary in the earlier stages. This "rest" is to be mental as well as physical; children should be kept quiet, isolated if possible, and allowed books and toys in moderation only.

Remedial Rest for the Neurones.—Recovery begins as soon as the active stage ceases, but since the nerve cell is highly-organized its recovery is very gradual, so that perversion of its functions persists for some time after the toxins have ceased to act upon it. It follows that no one can certainly determine the point at which the active disease ends and convalescence begins. It is therefore impossible to lay down any certain rule for dropping the treatment by salicylates and rest in bed; one must judge each case according to its own merits. Fortunately it does not matter much, so long as one errs on the side of excess in relation to the length of the period during which these are to be used, generally about a fortnight. Parents should be warned that the attack is not likely to pass away completely in less than 6 weeks, and that any undue forcing of convalescence will mean relapse. Even when the child is well enough to be up and about, choreic movements are likely to be in evidence, though slowly decreasing in degree. These are to be considered as proof that the cortical neurones are but imperfectly recovered, and therefore in need of yet more rest. This period of rest should include a lazy life of getting up late and going to bed early, with plenty of fresh air, and regular but not wearying exercise. School is out of the question for months after the movements have ceased.

Improvement of the General Health.—Two things are chiefly necessary, fresh air and plenty of food. Whenever possible children recovering from chorea should spend the greater part of the daylight hours out of doors. This is of course conditional on quiet surroundings, and is a strong argument for convalescence in the country. Ordinary meals should be allowed, with at least one pint of milk daily in addition. Tonics are also of value, the usual mixture of cod-liver oil and malt with Parrish's food is as good as any. Its value is enhanced by the addition of 2 to 4 drops of Fowler's solution in each dose. The large doses used have no advantage.

The Treatment of Symptoms.—The chief symptom calling for treatment is movement in excess, which occurs only in a minority of cases. Patients exhausted by constant activity or prevented by it from sleeping and feeding may be given chloretone in doses of 4 or 5 grains thrice a day, one of the doses being given at bedtime. The dose may be cautiously increased to 8 grains in children over 10. It appears to act as a muscular depressant as well

[1]Wegelin: Cor. Bl. f. Schweiz. Aerzte, 1910, XL., 913.

[2]C. F. Coombs, M. D., M R. C. P., *British Medical Chir. Journal*, Mar., 1911.

as a general sedative, for a disproportionate degree of muscular weakness follows its use. The ideal plan is to get the patient well under the influence of the drug, and keep him in a sleepy state for several days, according to the severity of the case. As he gradually emerges from this state the movements will in most cases be found less severe. When every drug, including chloretone, fails, the most violent movements may sometimes be suppressed by hot packs.

Treatment of Morphine and Other Drug Habits.[1]—By the following method Sollier has successfully treated during the last 20 years 357 cases of the morphine, heroin, or cocaine habit. The patient is first subjected to a period of preparation lasting from 5 to 8 days, according to the severity of the case. During this period the quantity of the drug is reduced, and if cocaine is used in addition to morphine it should be suppressed. When the heroin habit is present, this drug should be replaced by morphine in larger dose. At the same time it is necessary to establish free elimination, especially by the bowel. The patient is purged daily by the administration of calomel followed by Seidlitz water. Elimination by the skin must be stimulated by the use of hot douche or light baths, while a dose of pilocarpine may also be given. Free diuresis should also be established. Having assured the free working of the excretory apparatus, the drug may be abruptly stopped. The malaise experienced is largely situated in the muscles, and is reduced to a minimum by this method of treatment. It may persist for 24 to 30 hours, and is relieved by frequent hot baths of short duration. During this period the Seidlitz water is continued in doses sufficient to secure an action of the bowels every 4 hours, and must be given morning and evening for the two days following the discontinuance of the drug. All desire for morphine ceases after 24 hours, and the more free the evacuation the less the patient suffers. During the following 10 days the elimination of the drug is aided by baths and a daily dose of Seidlitz water. The patient is kept in bed from the commencement of the preparatory period. On the day on which the drug is discontinued he is allowed citric lemonade and later coffee, when this can be taken. During the following week food is gradually increased. The loss of weight is chiefly due to the evacuation of water from the body, and is rapidly regained after the first week, when the appetite returns. The patient now exhibits such a voracious appetite, with rapid digestion, that he can consume several large meals daily, and increase in weight at the rate of 2 to 3 or even 5 kgm. per week. During this period the system still contains morphine, and free elimination by the liver, intestine, and skin must be maintained. Failure of excretion causes malaise, which produces a return of the desire for morphine. The activity of the genital glands returns about the 15th to 20th day. While baths suffice for the stimulation of the skin; the liver should be acted on by a dose of calomel from time to time, and Seidlitz water should be given daily for 20 days, then every 3 or 4 days, or when any defect of intestinal action indicates its use. The purgation is well tolerated; patients feel better under it, while it disturbs neither appetite nor digestion.

The writer insists on the importance of forbidding substitutes, analgesics or hypnotics, during the treatment of morphine habit. The administration of such substances as trional or sulphonal even in small doses is dangerous to patients recently freed from the abuse of morphine, as they produce a state of hebetude which resembles general paralysis. This method reduces to a minimum the dangers and discomforts of the treatment of the morphine habit, while it gives results which are at once rapid and lasting, and when properly carried out should always prove successful.

[1]P. Sollier, M. D., *La Presse Medicale*, January 7, 1911.

GENERAL TOPICS.

Parasites as Agents of Contagion.[1]—The common parasites of man have been well known for ages, and the lesions produced on the organism by them have been well described. But the chapters accorded to parasites in medical literature were limited, their injurious action appearing to possess but a very secondary importance.

For some years, however, from the study of certain diseases where parasites were found, and from the outbreak of epidemics whose origin could not well be discovered, the attention of doctors and hygienists was directed towards them and their noxious action recognized. It was discovered beyond doubt that they were carriers of microbes or agents of inoculation of contagious diseases.

As their power of dissemination or multiplication is very great, and as, on the other hand, the conditions of human life are daily modified, as men move over the earth with facility and rapidity, as epidemics have broken out in places from which they were believed to have forever disappeared, hygienists set to study the means of destroying these parasites, or, at least, to discover the means of preservation against their effects.

Parasites can either live in the interior of the human body, in the intestines, or invade other organs; they belong to the class of entozoaires which comprise worms, or live on the teguments (lice, fleas, bugs, etc.), and belong to the habitually unclean; while others, such as flies, mosquitoes, live in dwellings or in the neighborhood.

[1]*Medical Press & Circular*, May 3, 1911.

Among the worms which can penetrate into man, live, and develop, the commonest are taenia, ascarides, oxyures, etc.

The pathogenic rôle of helminthes may be produced, says Dr. Duforez, by different ways: simple mechanical obstruction, loss of blood, production of toxic substances, transport of bacteria by which different organs are inoculated. Metchnikoff asserted that helminthes inoculated pathogenic microbes into the walls of the intestines, thus provoking infectious diseases (appendicitis, typhoid fever).

Metchnikoff's theory was recently confirmed by Weinberg, according to whom helminthes favored the penetration of microbes into the walls of the intestines in divers ways. Certain nematodes, such as the trichocephalus, inoculate directly the microbes found on the surface of their body; others, such as the lumbrici, infect by biting the mucous membrane; while the cestodes apply their suckers to the mucous membrane and produce intense local congestion, coating it with the micro-organisms that are found on the surface of the suckers.

The presence of worms in the appendix after removal by operation has been frequently proved, while the trichocephalus often provokes chronic enteritis or pain simulating that of appendicitis. Studying the rôle of intestinal worms in the etiology of typhoid fever, Guiart found the trichocephalus in 92 per cent. of the cases, and formulated the theory that typhoid fever was an infectious disease of microbian origin due to the effects of the worm. Barabaschi took up the question, and found only one case out of twenty examined where the worms were absent.

DERMATOZAIRES.

The ordinary acarus is found over the whole temperate zone, and consists of two classes—the sarcoptes, which provoke scabies, and the dermodex, which lives in the hair follicles. The rôle of the latter as an agent of contagion in cancer and leprosy was studied by Borel, who found that the portions of the skin where the dermodex was usually found became the most easily cancerous. Thus, epithelioma of the pilary system frequently develops upon a lesion due to the presence of acari and to their great multiplication.

In fifteen cases of commencing cancer of the face, the same author always found a large number of dermodex. He found them also in cancer of other regions. As to leprosy, M. Borel is convinced that the contagion is due to contamination by means of the dermodex, which he found deeply situated in the hair follicles.

INSECTS.

The discovery of the rôle of some insects in the transmission of certain maladies is of recent date. Some ten years ago, yellow fever, malaria, and plague were attributed to divers causes except that of insects; but in these late years new light has been thrown on the subject, and to-day it is proved that such maladies are propagated through vermin.

The plague, for instance, is transmitted from the rat to man by means of the flea, and bugs also have been proved by Nuttal and Jordansky to be causal agents.

Recurrent fever is contagious by the same means; as it occurs generally among the unclean population, it is natural to suppose that bugs should play an important role in the transmission of the bacilli of Oberneier.

Lice have been naturally accused, in their turn, of being agents of transmission of divers maladies, and in particular of tuberculosis and recurrent fever. Imhoff, Sergeant, Dolley, Abe and Manteuffel published observations to this effect. Manteuffel succeeded in transmitting recurrent fever from one rat to another by means of live lice living as parasites on animals.

Fleas.—The works of Yersin and Simmond have established the mode of propagation of plague epidemics. Plague is propagated from man to man; it is transmissible to divers species of animals and from animals to man. Among the animals, the rat is the chief agent through the fleas which inoculate it. But fleas can propagate other maladies—pneumonia, for instance.

M. Maurice, of Bordeaux, placed in a glass jar a mouse dying from infectious pneumonia and having fleas, and a healthy mouse. This latter soon contracted the disease and died in its turn. He renewed the experiment, but this time the subjects were completely freed from all parasites; the mouse serving as guide did not contract the malady.

Mosquitoes.—The rôle of mosquitoes as agents of contagion has been proved in recent years; their action provokes malaria and yellow fever, as well as the summer fever so prevalent in Italy.

Flies.—Flies which alight on everything and everywhere infect the food of man or carry microbes to the exposed parts of his body. It is thus that they are the agents of contagion of carbuncles, typhoid fever, dysentery, and perhaps a host of other maladies. These insects feed on all kinds of refuse and fœtid matter, which they deposit everywhere.

To conclude, a word on the exotic malady known as the sleeping sickness, produced by the tse-tse fly, which, according to the late Prof. Koch, by sucking the blood of the crocodile, and not of the teguments of the bovine species, as was commonly supposed, becomes infected with trypanosoma, the generating parasites of this curious affection.

As to prophylactic treatment of these natural enemies of man, it consists, as may be supposed, in cleanliness of the person (dermodex), of the dwellings (destruction of flies and other winged insects by a solution of formol, 1 in 10, placed on plates in the rooms, disinfection of waterclosets by petroleum oil, etc.), and of the approaches of the habitations (disinfection of all stagnant pools, dust heaps, and manure by the same means, or their suppression, which is much better), of food by washing all vegetables and fruits, and thorough cooking.

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Criticisms of Red Cross Societies are becoming so numerous and serious abroad, that it would not be surprising if they were excluded from English armies entirely. Colonel W. G. Macpherson of the British Army Medical Corps, in the course of an article on the Geneva Convention (*Jour. Royal Army Med. Corps*, Nov. 1910) says that two International detachments sent out from Antwerp and Chicago to South Africa, "had no other intention than that of obtaining admission into the Transvaal under the guise of the Red Cross, with the object of joining the combatant ranks of the Boers." The degrading dishonor of working on one's sympathy for a chance of injuring or killing him will not be forgotten for a long time, if ever. If the culprits could have been tried they would no doubt have been hung as spies. Military men will therefore look askance at the red cross emblem in the future. At the International Red Cross Conference in 1902, Prof. Küttner is reported as saying, "when the capture of Jacobsdal by the British was considered imminent, the inhabitants of the town prepared Red Cross brassards in bulk; and, in fact, one scarcely met an individual without a Red Cross brassard. Moreover, amongst all the ambulance men and hospital attendants, sprung, as it were, unexpectedly and suddenly from the ground, there was quite a large number of individuals who, the evening before, were in the firing line and had fired on the British, and who did not hesitate to take up their rifles again when the enemy evacuated the place." It is also stated as the general belief that Alexieff and other important officers escaped from Port Arthur in hospital trains protected by the Red Cross. Such disgraceful misuses of the emblem will no doubt lead commanders to ignore it in the future, and the question is raised as to whether humanity itself does not demand the total exclusion from armies of what actually prolongs war and makes it more dreadful.

The humane relief of wounded soldiers requires a corps of specially trained men under such military control that they will not interfere with the early ending of the campaign. Guelle's "Laws of War" is quoted as saying that in the field, the Red Cross societies "became the hotbeds of rivalries and jealousies on account of their conflicting interests; they caused situations embarrassing to the tactical operations; they interfered with the healing of wounds from the fact that men and women, ignorant of the principles of surgery, handled them; and they were the refuge of people animated by other motives than a desire to help the sick and wounded." It is also a well known fact

that immoral women have thus got to the army to ply their trade. It is forgotten that the Red Cross movement arose from the neglect of the wounded in continental armies, and that the Teutonic nations always and instinctively did what this new movement is trying to force on the others. The English speaking nations in particular have always tried to organize the medical department to do the very things relegated to the Red Cross Society in Austria, Japan and Russia, for instance. So that as an actual fact the higher nations really have no use for the society at all, but the sentimentality of the original Geneva convention of 1863 was so impractical and so greatly abused that it was vastly modified in 1906.

The new Geneva Convention is now in its turn being subjected to such destructive criticism, that it too bids fair to be ignored if future wars are to be ended promptly. The Japanese for instance sent back captured Russian physicians, who immediately went to work curing the wounded, and so effectively too, that in 90 days they had seventy-five percent of them in the ranks shooting up the very Japanese responsible for their cure. There were similar conditions on the other side, so that it is safe to say that what was intended to lessen suffering and death has actually caused many thousands of avoidable deaths and untold sufferings—a fine result of ignorant and sentimental civilian interference with military measures. So great was the number hiding under the red cross that one-seventh of the Russian Manchurian army was protected from capture, and the part too which made it most efficient in killing the Japanese forbidden to kill or capture them. The Convention protects all chaplains although they are often present, not for the wounded at all, but to increase the efficiency of the fighters by preaching a holy war. Indeed a fanatical army can be defeated and a cruel war ended at once, if we can only capture the chaplain or Mahdi or whatever he is called. There are many other matters mentioned in Macpherson's paper which take away all the glamor from the Red Cross Society in war, and raise the suspicion that even the emblem itself should be excluded from armies and that every military person and thing captured be treated alike,—humanely of course, but not considered neutral in any sense of the word. The Red Cross Society is useful in compelling lower races to be as humane as the higher, but there its usefulness in war ends for the trained specialists of the medical department do the work better.

Wars must be made terrible and relentless for military experts are unanimously of the opinion that by such means there is much less suffering and destruction of life than when the campaigns drift along and disease steps in. The recent revelations of the way the Geneva Convention prolongs wars have therefore caused a great revulsion of feeling against it. Particular resentment is shown towards the insupportable burden of neutrals who if captured must be returned to help the enemy kill us. There is a demand for a strict compliance with international law which defines a combatant as anyone in or with an army,—they all increase the efficiency of the fighters even if they do not carry guns;—a rule applying to teamsters and doctors as well as generals. On top of all this, it is now charged that under the new Convention, the Red Cross so-

cieties are planning to use the false plea of humanity to get the services of military men in its establishments in the rear, thus depriving the soldiers in the danger zone of attention. The organization was nearly disrupted once before on account of misconduct and it is surely doomed if it interferes with discipline and efficiency for no army will tolerate anything which keeps soldiers from the dangerous places where they belong. English army officers are resenting as impudent the assumption that the Red Cross Society is more humane than they or that it can do any better. They seem determined to ignore it as a nuisance, and use their own physicians and nurses. The Japs politely sent home the American women who forced their attentions on the soldiers, and who became an intolerable nuisance. Through political influence in our civil war, the numerous female associations for improving the condition of the poor soldiers, obtained control of so many of Sherman's wagons and trains, that at one time he reported he could not obey an order to move his army to an attack. He was directed to drive out the philanthropists and they retaliated by vilifying him in the press, even to the extent of calling him insane. They are still so feminine that any patriot who wishes to prevent their injuring the nation's defenses will be attacked. Their methods need watching.

The American Red Cross Society has probably known less of the evils enumerated than any of the European organizations. At the same time its history has not been entirely free from the "breath of scandal," and certain errors of commission as well as of omission have led in the past to controversies with local and Federal authorities that have not added to its repute. Mismanagement, the bickerings of politics, individual perfidy, and several other factors have on several occasions not only lowered its efficiency and made it fall far short of accomplishing its avowed objects, but subjected it to accusations and criticisms that could not be gainsaid. All this has been most unfortunate, for nothing more surely impedes the progress of humanity to higher planes of social efficiency, than the masquerading of intrigue, dishonest motives, selfishness and false ambitions in the guise of charity, kindliness and humanitarian efforts. When the course of events tears the mask away and those who trusted find greed, hypocrisy and deceit instead of unselfishness, sincerity and honest motives, human ideals and aspirations always suffer. It is true that some good some how to somebody may have been done, but it is always doubtful if this good can more than partially offset the harm that accrues from the cynicism and pessimism inevitably developed from a misplaced confidence or a deceived trust. This does not imply by any means that the American Red Cross Society has not performed many noble acts. On not only one but several occasions it has met dire emergency with honor and credit to all concerned. Not a few catastrophes and calamities have been robbed of their after horrors by the prompt and efficient action of the Red Cross Society. Nothing, moreover, in the foregoing is intended to convey the belief that many of those associated with the Red Cross movement have not been absolutely honest and actuated by the noblest motives. To deny that most of the men and women attracted to the work of the American Red Cross Society have been other than sincere and earnest would be to judge a considerable body of our fel-

low men and women contrary to our belief and knowledge. But we in common with many others have not been blind to the evils that have appeared as a result of the causes previously mentioned. Therefore because of these evils, but more especially because of the conditions inseparable from war, we feel that the American Red Cross Society should restrict its future activities to the great catastrophes, holocausts or emergencies that may arise, and refrain from any active participation in any war that the country may engage in. The splendid work of Miss Mabel Boardman and several associates under the presidency of President Taft has brought the American Red Cross Society to a state of efficiency never reached before. The evils that hampered the organization have been eliminated and it stands ready and equipped to do any work within its proper scope. As a great humanitarian organization arranged and prepared to meet instantly, with ample means and a trained personnel, any unexpected civic calamity the American Red Cross Society assuredly has a mission that should command the interest and respect of every American citizen. Such a mission would seem to be enough for any civilian society. At any rate it will probably have to be in this country, for the trend of affairs and what we know about the Medical Department of the U. S. Army make us feel confident that, in the event of war, there will be very little need of the services of the Red Cross Society. And when we come to review the past abuses and evils connected with the Red Cross Society in its war service, we cannot help but think that the need will have to be very great and the calamity very grave before the Army Medical Department solicits its aid.

This is not a reflection on the Red Cross Society. Instead it is a realization of the actual conditions of war and a recognition of the innate weaknesses of humanity.

The trend towards communistic medicine seems to be making rapid strides. In England, especially, the socialistic wave that is breaking over the rocks of ancient precedent as to things in general, is gradually wearing away the essential individualism of medicine as it has been regarded from all time down to the present. The proposed schemes for sickness and invalid insurance that are under consideration at the hands of the government—to the general principle, at least, of which both political parties are more or less committed—are bringing the national organization of the medical profession as a branch of the state service more and more within the scope of things to be. If the government is to take the contract practice among the poorer, but not pauper, class out of the hands of clubs and private organizations, and itself to provide the medical attendance on those who are insured under its provisions, it will naturally have the chief say as to the medical officers who shall do the work; and the question is now being discussed whether medical officers shall be appointed as a separate state service or the state shall employ the services of private practitioners willing to do its work on demand, either at certain statutory fees, or in the alternative for a *per capita* payment on behalf of those insured to those whom they shall choose as their medical attendants for a certain period. It is foreseen on all hands that whatever disposition of this question is ultimately made, it must of necessity have a very far-reaching effect—not only as regards the ordinary

medical attendants, but also on the hospital system and on those consultants whose aid may be invoked from time to time by the medical officers. They, it is clear, will also have to forego their individualistic basis in this connection and submit to a scale of statutory fees.

A bold proposition has been put forward in this connection recently in a book[1] by Benjamin Moore, of the Biochemic Department of the University of Liverpool. In this work the wastefulness and futility of the present system of "tinkering with the diseased individual" instead of seeking by organized effort the entire eradication of disease from the community, are pitilessly exposed and attacked. The vast amount of economic waste consequent on illness, through loss of employment, destitution of dependants, death of breadwinners, funeral expenses of those who die before their time, the expenses of illness including medical fees, the maintenance, schooling, clothing, and feeding of bereaved children at the public cost, in consequence of the loss of those whose labor should have paid for it, is pointed out. The effect of competition in cutting down the remuneration of medical men, and its necessarily concomitant degradation of the practice of medicine by entailing scamped work, the interference of our present hospital system—especially as regards the outpatient department—with the practitioner's livelihood, the overstraining of the charitable hospital, which cannot possibly attend to more than 15 to 20 per cent. of those whose financial position entitles them to the relief it ought to afford, as well as the marked contrast between the luxury of the voluntary hospitals and the parsimony of the state institutions, the necessary restriction of the hospital training and opportunities to a limited few of the entire medical body, the inadequate numbers of those engaged in the most important part of medical work, viz., the prevention of disease and the education of the public, as well as their totally inadequate remuneration, the lack of power and authority vested in the health authorities to investigate for themselves without having to wait on reports which are often not made, conditions relative to the incidence of infection, and to compel removal, isolation, and other measures necessary to strike at the root of the most disabling forms of disease—all these points are displayed in trenchant terms, if somewhat discursive manner.

The remedy proposed by Dr. Moore is a complete abandonment of the present methods of combating disease, the fundamental condition of reform being, according to him, a radical and complete change in the whole aspect and outlook of the government, the public, the private medical practitioner, and the public health officer. It contemplates no extension or amplification of the present systems or any branches of them, but a new system including the organic coordination of all the various forces now engaged in the warfare on disease. He proposes the formation and equipment of a national health service on a government basis, under a minister of public health with cabinet rank, to be parallel in all important points with the government medical services of the army and navy, and supported, like them, by a general tax, so that medical treatment shall be free, like education, and like edu-

[1] *The Dawn of the Health Age.* By Benjamin Moore, M. A., D. Sc., M. R. C. S., L. R. C. P. London: J. and A. Churchill. 1911. Pp. 204. Price 3s 6d net.

cation also, compulsory. He is sanguine enough to believe that ten years of such a régime would practically rid the community of all need (outside of accidents and a small residuum of individual disease) for practitioners as healers, and would allow the national medical officers to devote practically all their time and energies to their proper functions, viz., the education of the public in personal hygiene and sanitation, the enforcement of a sanitary environment, and of measures for the abolition of infectious diseases. There would be work enough in this direction alone, he maintains, too, for all the 32,000 medical men on the British register, whose labors he considers at present almost wasted because they are misdirected, owing to the present methods of attacking disease which are "mediaeval in their antiquity and ignorance."

The cost of this revolution would be borne by a unified system of state insurance against sickness, with contributions from the workman, the employer, and the state. He adduces figures to show that the sum now annually spent by individuals and the state on medical fees, sanitary officials, antituberculosis measures, etc., and lost through loss of wages, provision for the unfortunate, and other economic drains, would suffice by merely a change of method in collection. Then the sums that would be paid to the government as a tax instead of as expenses now borne by individuals, would so amply provide a fair average income for each of the existing practitioners, that there would really be no new national expenditure entailed.

The gradual evolution of such a service, the author believes could be brought about in the course of at most twenty or twenty-five years, without any sudden or revolutionary procedures. As soon as the proposed state insurance came into action a state examination should be established for entry into the state medical service. For the first three years the entrants into the service should be sent into the state hospitals which the new scheme would inevitably require. At the end of the three years a basis would have been obtained on which incomes could be calculated, and then the inducements of a steady income, based on these figures, with retiring allowances at say sixty-five years should be offered to induce men in private practice to enter the service. Vacancies by death and retirement would be filled from the men undergoing training in the state hospitals, and the author seems sanguine that in three years a large number of existing practitioners would elect to join the state medical service, which in twenty-five years would have automatically established itself by the natural process of slow growth.

The working of the system is pictured—in imagination only, be it remembered—by the author as follows:

"The district assigned to each state doctor doing outside work would contain 400 to 500 families or houses. [He adds in a footnote that this would constitute each doctor's district for inspection and preventive purposes, but for the purpose of patients visiting doctors for advice on their own initiative, a dozen or more such districts might be termed a division, within which any patient might make choice of a doctor without having to pay a fee, so preserving the choice of a doctor]. He would have in this district a surgery to which anyone requiring advice would come at fixed times of consultation; there would be no crowds as at present, because there would be no sweated work; there would be no advanced phthisical cases coming, because they, if still existent, would be in sanatoria; other infectious cases would also be chiefly picked out in their homes, in ways to be pointed out later. Such patients who came on their own initiative would be treated in the surgery as at present. No case of serious disease would be allowed to go away treated in a perfunctory way, or sent back into

the community or to work. The infectious case would go to the infectious hospital, or if circumstances were such that it could be isolated and rendered free of danger to others, it would be treated at home. Similarly, with the serious case, such as one requiring a surgical operation, this would be sent to the hospital, or if the patient refused he would be told flatly and straightforwardly the great risk he was running; there would be no hospital abuse existing any longer, and no fees at stake. . . . . Then at certain hours the doctor would do his visiting rounds much as he does at present, but under much more ideal conditions than he can now claim. He would have no risk of rivals worrying him, no bills to bother about, no suspicion lest his patients thought he was after fees. His practice would be all compact in the little distance allotted to him, and while there would be sufficient supervision to see there was no shirking of work, he would be free from a hundred embarrassments in his work from which he now suffers."

To the obvious objection of "violating the sanctity of the home" by these bureaucratic methods, the author opposes the working of the compulsory education act and the inspector of nuisances, and asks where are the terrors which were so freely prophesied concerning them; they have no more terrors for honest people than either the policeman or the gas meter inspector.

As to prevention he says that suppose a case of diphtheria, for instance, has been found, unless it could be properly isolated at home, it would at once be removed "without any nonsensical preliminaries" to the infectious disease hospital and treated with antitoxin. An intimation would be sent to the school, to all the doctors in neighboring districts responsible for the patient's classmates, and the school medical officer would catch the first sore throat in that school and send the child home to be watched by its own district medical officer. The doctor who first found the case would question the mother and the people who had been in contact with the child, and thus a perfect "follow up" system would obtain. In addition to this the district medical officer or one of his staff should call at stated intervals at each house and ascertain if all was well; and, with hygienic instruction general and no fear of a fee to pay, the people would soon learn to cooperate with the health officials.

As advantages to the profession of such a scheme the author lays down (1) an assured income; (2) a settled provision for the future as a retiring allowance; (3) relief from clerical work, bill collecting, etc.; (4) relief from the dilemma of a charge of neglect on the one hand or of "making business" on the other; (5) equal opportunities for the training consequent on hospital work; (6) compactness of work, leisure, and study time; (7) abolition of professional jealousy; (8) the breadth of training and opportunity from being moved about from place to place; (9) the abolition of cheap practice and of the hospital abuse. For the public, competent attendance under all circumstances, no scamped work, no worry about fees, leading to unnecessary and possibly dangerous delay in seeking aid, prevention of sickness rather than cure, and consequent saving in money as well as distress, mental and material.

It seems a pity to throw cold water on so pretty a scheme, but we feel impelled to point out, first, as regards the adhesion of the profession, that we do not believe that the men who are financially doing well under the existing system, a large portion of which, at any rate, must be the best type of doctors whose adhesion it would be desirable to secure, would be willing to throw aside their present vantage for a much lesser income than they are at present making; that many would regard the prospect of being able to be ordered about from place to place as

a drawback, rather than an advantage; and that professional jealousy is by no means unknown in the existing services. On behalf of the probable public attitude, it is well to recollect the existing opposition on the part of very many not only to vaccination, the use of antitoxin, and hospital treatment, especially to quarantine or removal to hospital for infectious disease, the extent to which the purely personal element enters into the question in the treatment of the sick, etc. Other objections might be raised, but these are sufficient for the present; meanwhile we admit that we think the more widely this book is read the better, for the subject is clearly in the air. It behooves wise men, therefore, and particularly wise doctors, to face a problem that is knocking at the door.

A new cause for toothache and certain nervous diseases has been found by an European physician in the high tension electrical currents that are produced in the course of wireless telegraphy. This same savant is quoted as predicting a general increase of nervous ailments traceable to this same cause. He believes that the neuronic elements are so affected that a low grade neuritis is produced which progresses according to each patient's general physical condition, hygienic surroundings, occupation, habits, etc. If these make for health, the individual may slowly overcome the particular nervous manifestation caused by the electricity which artificially permeates the surrounding atmosphere. If the environment is faulty and the metabolism is failing, the low grade neuritis extends, and sooner or later assumes the form of some aggravated nervous disorder. At first thought, this theory of atmospheric electricity exerting pathogenic action on the nerves or any other tissue seems unreasonable, but like many another new and original premise, the more it is considered, the more reasonable it becomes. The insidious effects of the X-ray on the skin and other tissues, especially its tendency to sterilize at least temporarily those who are daily exposed to its action, the neuroses or neurotic tendencies frequently observed in those whose occupation forces them to spend considerable periods in rooms where powerful dynamos are constantly running, and the tropho-neurotic affections so often encountered in physicians who use day in and day out the ultra-violet, high-tension and other forms of electricity, are all more or less common, and lend color to the possibility that electricity has pathogenic as well as other properties about which practically nothing is known. The enormous extent to which electricity is used for lighting, locomotion, and other commercial purposes, the discharges incident to wireless telegraphy and telephony, the inductive effect of myriad wires more or less constantly charged, and the waste of electricity from third rails, live trolley wires, etc., may increase the atmospheric electricity and confer some special property on the surrounding ether that will have a well defined effect on living tissue and ultimately be found to be a real factor in the etiology of certain at present obscure diseases.

Too much skepticism is not wise at the present day. The impossibilities of yesterday are the well established phenomena of to-day. It does not pay to doubt or deny the possibility of anything pertaining to the so-called natural phenomena, or life itself. To pause and consider the many

things common-place to-day that a few short years ago were not only unknown but actually beyond the mental grasp of our fathers, cannot fail to make one hesitate to question the possibility of any occurrence dependent on or associated with natural phenomena. The discovery of some simple little fact, seemingly unimportant may render a whole group of phenomena comprehensible, and these in turn may make a whole chain of erstwhile mysteries and apparent impossibilities so plain and commonplace that one will be less amazed at the new discoveries than at the failure to have grasped them before. The human mind has been ever thus. What it could not understand or account for, it would deny or place with the supernatural. Gradually the key-data or connecting-links in the comprehension of natural phenomena have been discovered, but the end is not yet. The relation borne by electricity in any of its forms or various manifestations to human tissue is not known. What it is, how it acts and under what conditions, are also unknown. Some day these will all be answered and the whole subject will be so clear that mankind will wonder how such questions could have been asked. Therefore, it ill behooves any thoughtful medical man to dismiss as preposterous the statement of a colleague that the electrical discharges incidental to wireless telegraphy and other electrical apparatus are the cause of toothache or certain obscure diseases of the nervous system. He may be close to some fundamental truth that will interpret the whole relation of electricity to living tissue, perhaps to life itself. Who knows?

The Pure Food and Drug Law that the great majority of honest men of every class or calling have looked on with pride, since it so evidently represented a substantial move in a needed direction, has recently been found lacking in a highly essential detail. The judgment handed down by the Supreme Court to the effect that the present law in its reference to the labeling of remedies did not extend beyond statements concerning the character and amount of the ingredients, has been given wide publicity in the lay daily and weekly medical press. It is generally known that it concerned a "cancer cure," the label of which carries certain statements relative to its curative properties that are highly improbable if not absolutely untrue, according to everything known to-day about cancer and its cure. Up to now, in the regulations of the Bureau of Chemistry laid down for the interpretation and execution of the law, the label has been considered as a whole, and any untrue, fraudulent or improbable statements appearing on the label concerning the action and effects of any remedy have been held to be misbranding and culpable under the law. Suits have been instituted as occasions arose but this case concerning the cancer remedy was the first to reach the Supreme Court. As previously stated the judgment rendered pointed out that the law so far as it pertains to the label is restricted entirely to statements concerning the ingredients. Consequently, as it stands, it affords no protection whatsoever in regard to those statements appearing on the label that refer to the action, effects, and uses or indications of a remedy. However exaggerated, improbable, untrue, or grossly false the labelled description of the action or value of a remedy may be there is no law at present under which the person or firm responsible therefor can be reached and made to stop.

Regret has been general and genuine. At first a few were inclined to think that the Supreme Court had taken too literal a view of the law, and in rendering its verdict had followed the letter of the law so closely as to overlook entirely its intent. As thoughtful men have studied the proposition, however, it has become evident that the judgment rendered was the only one possible under the measure as it stands. It is too bad that foresight did not enable those who framed the law to see what leeway they were leaving to the unscrupulous by failing to prescribe that every part of a label shall tell the truth. Aside from this omission the law has been far more satisfactory than was expected. Certain of the regulations evolved for the interpretation and execution of the law and many rulings based thereon have been considered arbitrary and less fair than the framers of the law intended. The controversies, however, that have arisen have been no more numerous nor acrimonious than usual under a bureaucratic system. In fact there are abundant reasons for believing that they have actually been less and that on the whole those charged with the execution of the law have aimed to be fair. Possibly at times suspicion and intolerance have been more in evidence than has been good for the creation of confidence in official impartiality. But the active cooperation that has been given cheerfully by many of the largest and most important firms speaks volumes concerning the respect generally entertained for the law. The sentiment has been universal therefore, that an amendment while imperative was all that was needed to make the Pure Food and Drug Law all that it was originally designed to be. The urgency of the situation was shown by a special message from the President asking immediate action.

Representative Sherley promptly introduced an amendment that extends the provisions of the law to all statements concerning the action, virtues and uses of all remedies. If passed, henceforth no improbable, untrue or inaccurate claims pertaining to the curability or efficacy of any remedy will be allowed on the label. Each and every statement must be strictly true, and avoid everything liable to deceive and defraud the purchaser. All this is right. No honest man can deny that the label should tell the truth. Such a requirement is unassailable. But who knows the truth? Where are they who can say definitely and absolutely that any particular statement concerning the curability of any drug or remedy is untrue? As a matter of fact, the Sherley amendment will be apt to lead to endless discussion and disputes, for individual belief and opinion enter so largely into any statement as to the virtues or particular worth of most remedies that what one man may accept as true another may repudiate *in toto*. Take for instance certain homeopathic remedies. There are plenty of people who hold that the thousandth trituration of a drug or the 30th dilution cannot possibly have any therapeutic activity. Many others ascribe definite virtues to these self same preparations. Who is there capable of deciding the question? Will it be fair to condemn statements referring to the efficacy of these remedies? Innumerable questions of a similar character are bound to arise under the proposed amendment. Those who will be called upon to pass on the truth or untruth of the claims put forth concerning a remedy's worth or efficacy in the treatment of any disease, may personally doubt such claims, but will it be fair or just to condemn them solely on personal opinion? Every

medical man has within his experience many different cases that, failing to respond to ordinary or orthodox treatment, have yet under the use of some seemingly irrational or ridiculous measure made a perfect recovery. It is customary for the physician to look upon all such cases as natural cures representing simply the natural course of events. In his opinion such recoveries occur not as a result of the ridiculous remedies employed—but in spite of them. At the same time it cannot be proved that the remedy had no part in the result and the person who believes that it did is as entitled to his opinion as the one who believes that it did not. And so we do not hesitate to say that much liberality must be shown in enforcing the new amendment, or controversies will arise that will benefit no one and possibly jeopardize the whole law. Obviously, there will be many statements similar to the one on which the recent Supreme Court judgment was based that will be so patently improbable and impossible that no intelligent person would accept them and no honest person would make them. It will not be statements of this character that will cause any difficulty. But there will be many statements that can be neither proved nor disproved and these are the ones that will call for liberal judgment. If the Bureau shows that it does not intend to be arbitrary, that it does not intend to prevent manufacturers from making reasonable statements concerning the remedial worth of their products, and finally that decisions are not to be based on any personal views or prejudices, we confidently believe a spirit of cooperation will be developed that will be far reaching in its effect on the whole pharmaceutical industry. Errors and mistakes will be corrected and an intolerable condition cleaned up by honorable firms as a matter of pride. This is the ideal consummation and will depend on the tact and common sense with which the amendment is put into effect. For the crooks and ghouls who prey upon the credulity and weaknesses of afflicted humanity there should be no consideration shown whatsoever. Their lying, illogical and altogether preposterous statements place them outside the pale of decency. To force them to be truthful will be to drive them out of business. But the honorable firms of the country are in a different class and to these we hope will be shown a tolerance born of an honest recognition that a reasonable statement concerning the efficacy of a drug or remedy is not necessarily untrue because someone doubts or possibly disbelieves it. The Pure Food and Drug Law has done much good work. May it do much more.

Speaking of the Fourth of July crop of tetanus cases it is a matter for congratulation that each year witnesses a diminution. While it is probably true that the growing sentiment in favor of a safe and sane celebration has been prominent in producing this gratifying result, we still believe that another factor has also been at work. We refer to the immediate use of anti-tetanic serum. A few years ago this serum was seldom employed until symptoms of the disease were in evidence. Its failure to control the disease was always disappointing and almost caused it to fall into disrepute. Clinical study, however, soon demonstrated that while anti-tetanic serum was seldom able to control a fully developed case of tetanus, it did possess notable prophylactic properties, and its administration coincidental to the dressing of a wound could be relied upon to prevent

the development of tetanus in practically every instance. In consequence, the prophylactic use of anti-tetanic serum has become its most important indication and through its inhibiting influence on sporulation and bacterial growth, a very marked reduction in the cases of tetanus following powder or gun shot wounds has been secured.

It is hardly necessary to say therefore, that an all important detail of the treatment of every Fourth of July wound is the immediate injection of a prophylactic dose of anti-tetanic serum. It not only gives a sense of security and duty well performed that every conscientious physician sincerely enjoys, but avoids the embarrassment and criticism that are sure to follow failure to protect one's patient by a procedure so universally recommended and endorsed.

Criticisms of pedagogs and pedagogy are becoming more frequent and, what is still better, are being voiced by the pedagogs themselves. Not long ago Prof. John M. Coulter called attention (*Science,* June 10, 1910) to the fact that the teachers' isolation from the world creates a feeling of superiority, while the practical man does not appreciate them but rather looks on them as visionaries. It is a little worse than that, because long years of teaching give one a tone of infallibility which shows itself in that intolerance which mars so many scientific discussions. Besides, one who is constantly teaching what has been done is prone to neglect what is being done or even makes bitter attacks upon new ideas. It is quite proper to call attention to all these handicaps every now and then, for the purpose of toning down the expression of opinions and interpreting those of others. A little spanking now and then does us all a heap of good.

The increasing objections to educational methods must mean that important changes are imminent, although European visitors generally express admiration for what we are doing. Perhaps foreign methods are far worse than ours. What concerns us as a profession is the growing opinion that the kindergarten and lower grades should be taken out of the educational field entirely and looked upon in their true light of public nurseries. Children learn from the moment of birth, and are also susceptible to training, but there is much evidence that the kind of mental calisthenics found in pedagogic methods, is not useful until the brain is pretty well grown. Moreover the growth and development of the brain are apparently checked if training begins too soon. A yearling colt may be ruined by the track and a child by the educational races of our schools. The children who do not get much if any training until ten or over, seen to outstrip those who began years before. A little Boston boy, who is an ordinary case of the precocity of genius, has been widely advertised as an illustration of what early training will do for normal children, but their welfare demands a prompt denial that training has had anything to do with his precocity and genius.

The feminization of the lower schools is also getting some rather hard knocks, but it seems most unjustly. The management of little children is peculiarly the sphere of women, and if we will only consider the lower schools as nurseries and the teachers as nurses, much of this opposition

will cease. After the age of puberty on the other hand the boy should be trained by men exclusively, and the opposition to women teachers is well founded. Even the presence of female students is found to be so unwholesome, and repressive to boys as well as unduly stimulating to girls, that coeducation is generally acknowledged to be a serious mistake and is being abandoned. Separation of the sexes is necessary for the proper mental development of each, as should have been known before the absurd experiment of coeducation was tried. Girls naturally develop quickly and outstrip the boys; so they should not be stimulated to greater efforts. The boy's growth is slower and he is less emotional. Indeed he needs a man's care.

Nervous fatigue of barbers and printers may not be of sufficient importance to be classed as an occupation neurosis, but it is a very real and serious matter to the workman when he feels the wanderlust stealing over him, compelling him to abandon a lucrative position and travel. These two classes of our population are so noted for their intermittent industry that they have been grouped together with the "periodical tramps." The sufferers periodically find themselves utterly unable to work. Some of them recognize the condition as exhaustion and rest up, but the majority seem to give way to a mere restlessness with no appreciation of its cause. The printer is liable to resort to alcohol to anesthetize his tingling nervous system, but luckily for the barber his work prohibits indulgence. The condition is therefore of more than academic interest to physicians. The unnatural life of such workers is fully competent to explain their fatigue—confinement for long hours in close, hot, unventilated rooms, at work which requires great self-control and concentration, is bad enough, but when we add the effects of night work, insufficient sleep, practically no outdoor exercise and often improper food from lack of a normal appetite, we wonder why they stand it as long as they do. It is also found that in many of the cases there is the added injury of eye-strain, particularly in the printers, some of whom find themselves so neurasthenic after a few weeks of work that concentration is impossible. Some classes of typesetting, such as statistical tables or genealogical diagrams are notorious for the "nervousness" they cause. When complete exhaustion comes on, the sufferer takes to the road unless he has saved up for such periods. The result is a constant stream of workmen entering and leaving every big shop.

The prevention of printers' or barbers' fatigue is a mere matter of shorter hours and outdoor exercise, but unfortunately, the shops cannot be managed on any such plan—at least the proprietors think so. The workmen too are rather reluctant to make less money per day, but if they count up the prolonged periods of idleness, they will probably find that it amounts to the same thing to work less each day and take a day or two off each week. Their outdoor life would be better spent in prevention if taken a little every day than to spend it all at once in curing or resting up and in addition they would prevent the chronic incurable neurasthenia which drives most of them into other employments before middle age is passed. So there is something physicians can do to lessen, if not entirely prevent the class of inefficients who furnish so many patients. Perhaps the labor unions

might take it up, if they would not insist upon the same pay for the greatly shortened day proposed. Then other exhausting trades might fall in line, to the great betterment of public health and industrial efficiency.

The intermittent work of lower races is a chronic source of complaint on the part of employers. On the other hand, Chinamen, by the ordinary laws of selection acting through thousands of years, have evolved a physique which can safely be worked at low pressure for many hours every day of the year until extreme old age. The races recently in a savage state were fitted for the intermittent exertions of hunting and fishing and are consequently exhausted by prolonged labor. All over the world this phenomenon is found. The southern negro suddenly "lays off to rest up," much to the inconvenience of the employer, the American Indian does the same when he is trained as a mechanic, in the Philippines no employer can count on his Malay workers, and the same plaint is heard from Honolulu as to the natives there, but the Chinaman as a rule is as dependable as the sun. The natives will not work to the point of complete exhaustion and thereby show more sense than white men similarly thrust into employments for which they have not evolved the necessary nerve—and typesetting is as new to us as steady work is to a negro. The point to consider is the fact that employers of lower races the world over, have adjusted their shop system to the condition of intermittent labor and the frequent feast-days which seem to be a necessity as furnishing the rests. Why cannot employers in America adopt the same system and keep the same employees the year round, instead of being bothered by a constant stream of new ones to be broken in? It ought to pay and it surely would enhance health and efficiency, to have fewer nerve-wrecked and nerve-racked men worn out long before their time. Perhaps the new studies of suicides, inebriety and vagabondage will show that the underlying nervous diseases are really occupation neurasthenias in persons congenitally more or less weak.

The benefit of the symposium is liable to be lost if those taking part do not realize what it is for. Too often do we find that the papers presented at an important meeting contain little that needs publication, the authors apparently assuming that it was their duty to cull from text-books with the idea of teaching an audience of new students. As a matter of fact, the real purpose is to sum up advances made since the text-books were published, and to do this, the part devoted to the old, need be very short—a mere basis for the rest of the paper. Really important discoveries are never reserved for publication in future symposiums, but find the light at once and their existence in sufficient number causes the symposium, which is never devoted to an unadvancing subject. This warning to our medical societies should be sufficient to prevent waste of time and labor. The busy practitioner or research worker should find a symposium of vast benefit, whereas he too often yawns through it as he finds nothing new, even in the lines in which he has not had time to keep up with current literature. In the ideal symposium all the papers should be collected as the basis for the next summing up.

ORIGINAL ARTICLES.

ANALYTICAL AND STATISTICAL STUDY OF BOWEL DISEASES IN INFANCY AND CHILDHOOD IN SO FAR AS THEY RELATE TO THE COLON, SIGMOID FLEXURE, RECTUM AND ANUS, WITH SUGGESTIONS CONCERNING THEIR DIAGNOSIS AND TREATMENT.[1]

BY

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When I was a student no instruction was given relative to the diseases of the lower bowel in infancy and childhood, nor in so far as I can learn do they receive any consideration in the undergraduate schools of today. I have been greatly interested and have looked up the literature both in our text-books and current periodicals concerning this subject and have been able to find nothing of practical value further than an occasional allusion to fissure and procidentia recti. Owing to the fact that I am frequently called upon to treat children suffering from this—a class of affection so easy to cure—has convinced me that a few talks upon this practical subject might prove useful and interesting.

These ailments are bettter understood now than formerly and are diagnosed with certainty through the aid of the sigmoidoscope and proctoscope, while in times past pathologic conditions in the upper rectum and sigmoid were simply guessed at because there were no means of inspecting them.

Before proceeding with the subject proper I would urge upon you the importance of paying special attention to the lower bowel diseases of infants and children because I feel certain that should you do so you would be amply repaid for your trouble.[1]

A fairly large experience in the treatment of colonic and ano-rectal affections has convinced me that the discomfort and pain from which infants and children suffer is to be found in these localities very much more frequently than is suspected by the internist, pediatrist or surgeon.

When an adult suffers from a colonic or rectal ailment he is usually advised to have it treated or operated upon just as soon as its nature has been determined but this rule is not always followed when an infant or child becomes so afflicted.

In many instances pathologic conditions of the colon and rectum go unrecognized; in others they are considered of but minor importance, and in still others, even when serious and diagnosed, the physician not infrequently does nothing but advise the mother to let the child alone, telling her that it will outgrow the trouble.

Now and then a case of abdominal disease is encountered where a diagnosis cannot be made, except by exclusion. Usually, however, the nature of the intestinal lesion can be determined by palpation, percussion, succussion or by inflating or distending the colon with air or fluid after first obtaining a complete history. There is no reason, however, why diseases of the rectum should not be accurately diagnosed by the physician who has perfected himself in modern methods of examination.

Most rectal ailments are located in the lower inch and a half of the rectum, consequently they can be identified by inspecting and palpating the anus and surrounding

[1]Founded upon a series of lectures delivered at the New York Post-Graduate Medical School and Hospital.

[1]A portion of the material used in these lectures appeared in the *Journal of the American Medical Association*, Vol. LV, No. 16, Oct. 15, 1910, page 1356.

parts and by making a careful digital and anoscopic examination, but when the disease is in the middle and upper rectum, at the recto-sigmoidal juncture or lower sigmoid flexure, it can be seen through the proctoscope or sigmoidoscope. (Figs. 1, 2 and 3).

In many quarters the opinion prevails that a digital and proctoscopic examination is impossible in very young children. Such, however, is not the case since the sphincter can be made to relax and the rectum is sufficiently large to admit the finger or a small proctoscope.

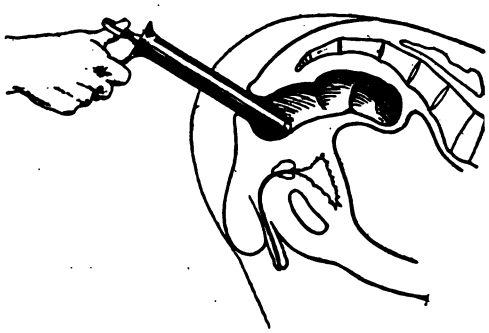


Fig. 1. Showing introduction of the Sigmoidoscope (First Step).

I have treated many young people and adults for very extensive procidentia recti, invagination, mechanical constipation, colitis, stricture, abscess, fistulae and other serious diseases of the lower bowel who had suffered since infancy or childhood, affections which could have been speedily cured had they been correctly diagnosed and treated at their incipiency. It would seem that the time has now arrived when physicians should take upon themselves the responsibility of treating the ano-rectal affections of children as soon as diagnosed and no longer permit them to drift, as has been customary, with the hope that they will outgrow the lesion if it does not heal spontaneously.

The treatment in this class of cases does not necessarily mean an operation for, in many instances, a cure can be effected by regulating the stools, keeping the bowel in a hygienic condition and by making topical applications. When surgical intervention is necessary it should cause no anxiety, in the vast majority of instances since the operation is devoid of danger, can be quickly performed, post-operative suffering is slight and convalescence is short.

Instead of discussing at length the etiology, symptoms, diagnosis and treatment of the various colonic and ano-rectal diseases of infants and children twelve years of age



Fig. 2. Showing introduction of the Sigmoidoscope (Second Step).

or less, I have subdivided and tabulated my work in this field which includes three hundred and sixty-nine cases to show the large variety of affections encountered in these regions and the results which followed their treatment. Three tables with their summaries have been compiled; the *first* includes the cases of rectal diseases, the *second* those of ano-rectal obstipation, and the *third* those of abdominal obstipation. After calling attention to the salient features of these tables and outlining the treatment of the various diseases, I will describe my cecostomy which permits the small and large intestine to be irrigated separately or at the same time, a reliable procedure to employ in all cases where direct bowel treatment is indicated.

Ano-Rectal Affections in Infants and Children Treated by the Writer.

TABLE 1.

No. of Diseases.	Diagnosis.	No. of Cases.	Male.	Female.	Cured.	Improved.	Unimproved.	Died.
1	Congenital deformities	10	6	4	8	..	..	2
2	Sequellae following operations for deformities	9	5	4	3	5	1	..
3	Coccyx, tumors and cysts of	3	2	1	2	1	..	..
4	Coccyx, deviation of (anterior and posterior)	2	1	1	2	..	..	..
5	Coccyx, fractures of	2	2	..	2	..	..	..
6	Coccydynia	1	..	1	1	..	..	..
7	Coccyx, congenital absence of	2	2	..	2	..	..	..
8	Dermoid, sacral	2	1	1	2	..	..	..
9	Cyst (sebaceous) anal	1	1	..	1	..	..	..
10	Lipoma of buttocks	2	1	1	2	..	..	..
11	Sarcoma anus and buttocks	1	..	1	..	..	..	1
12	Carcinoma, rectal	1	1	..	..	..	..	1
13	Procidentia (mucosa only)	27	15	12	20	5	2	..
14	Procidentia (mucous and muscular coats)	7	3	4	6	1	..	..
15	Polyps (single)	15	6	9	15	..	..	..
16	Polyps (multiple)	6	4	2	4	1	1	..
17	Fissure (single 16, double 1)	17	8	9	17	..	..	..
18	Ulcers, nonspecific (single 2, multiple 6)	8	4	4	8	..	..	..
19	Ulcers, syphilitic (congenital anus or vulva)	6	2	4	5	1	..	..
20	Ulcer, tubercular	1	1	..	1	..	..	..
21	Ulcer, diphtheritic	1	..	1	..	..	..	1
22	Stricture, congenital syph. 1, foreign body 1, injury 1	3	2	1	2	1	..	..
23	Chancroids, anal	1	..	1	1	..	..	..
24	Venereal warts, accumata 1, latta (syph.) 1	2	..	2	2	..	..	..
25	Gonorrhea	5	2	3	5	..	..	..
26	Proctitis, acute	6	4	2	6	..	..	..
27	Proctitis, chronic	9	5	4	7	1	1	..
28	Erosions of anus and skin	7	3	4	7	..	..	..
29	Abscesses, ischio-rectal 4, marginal 4, sub-mucous 3	11	7	4	10	1	..	..
30	Abscess, sacral (dermoid) 1	1	1	..	1	..	..	..
31	Fistula, complete 4, b-internal 3, b-external 1	8	5	3	8	..	..	..
32	Fistula, recto-vaginal	1	..	1	1	..	..	..
33	Fistula, tubercular local 1 with gen. tb. 1	2	1	1	1	..	1	..
34	Hemorrhoids, external thrombotic	8	4	4	8	..	..	..
35	Hemorrhoids, external cutaneous	5	3	2	5	..	..	..
36	Hemorrhoids, internal (complicating constipation)	2	1	1	2	..	..	..
37	Impaction, fecal (rectal)	15	8	7	15	..	..	..
38	Impaction, from seeds and fruit stones	5	4	1	5	..	..	..
39	Injuries (severe laceration of rectum and anus)	4	3	1	3	1	..	..
40	Foreign bodies (fishhooks, bones, coins, etc.)	4	4	..	4	..	..	..
41	Pruritus ani	3	1	2	2	1	..	..
42	Thread worms	3	2	1	3	..	..	..
43	Round worms	2	1	1	2	..	..	..
44	Hypertrophied anal papillae	1	1	..	1	..	..	..
45	Patulous anus (from pederasty)	1	1	..	..	1	..	..
46	Sphincters, anal and urinary (paralysis of)	3	2	1	..	1	2	..
47	Sphincter, hypertrophy of	11	6	5	11	..	..	..
48	Defecation, painful from abnormally small anus	7	4	3	7	..	..	..
49	Defecation, difficult from overlapping anal skin folds	3	2	1	2	1	..	..
50	Fecal incontinence (following operation)	2	1	1	..	1	1	..
51	Hypertrophy of the rectal valves	2	1	1	1	1	..	..
52	Rectocele, posterior	1	1	..	..	1	..	..
53	Bifurcated rectum	1	1	..	..	1	..	..
	Total	263	146	117	223	26	9	5

SUMMARY TABLE 1.

Different diseases treated	53
Number of cases treated	263
Males	%
Females	%
Number of cases cured	223%
" " " improved	26%
" " " unimproved	9%
" " " deaths	5%
	263
Number of venereal diseases treated	14
Congenital syphilis (M. 2—F. 4)	6%
Chancroids (M. 0—F. 1)	1%
Venereal warts (M. 0—F. 2)	2%
Gonorrhea	5%
	14

Remarks.—The age of these patients varied from birth to twelve years of age, the majority of whom were more than six years old. None of the five deaths recorded are chargeable solely to the treatment instituted, because they occurred in infants afflicted with acute congenital bowel obstruction (2), cancer (2), and diphtheritic colitis (1), and were moribund or in a deplorable condition when first seen.

Treatment of Ano-Rectal Affections.

The majority of the operations performed in this series of cases required less than ten minutes and local anesthesia induced by sterile water, normal saline or a 1/8% eucaine solution was employed more frequently than general narcosis and the treatment of the different affections was in the main as outlined below.



Fig. 3. Showing introduction of the Sigmoidoscope (Third Step).

Fissure in Ano.— *Recent* fissures were cured by securing daily semi-solid movements and by cleansing and placing a small gauze pledget previously saturated in ichthyol or a silver nitrate solution in the rent for the purposes of drainage and stimulation.

Palliative measures are of little avail in the treatment of *old* fissures accompanied by sphincteralgia because they do not put the muscle at rest. *Divulsion* of the muscle is sometimes effective but the writer has discarded it in favor of *division* of the sphincter because the latter puts the sphincter at complete rest during the treatment and also serves to widen the anal canal and act as a prophylactic against future tears.

My operation consists in anesthetizing the tissues posterior to the rent by injecting them with sterile water or a 1/8% eucaine solution until white. The sphincter is then severed by scissors, one blade of which has been placed posterior to and the other in the rectum in front of the fissure or with a bistoury.



Fig. 4. Showing Ulcers of the Anal Canal.

Ulcers of the anal region (Fig. 4) which incite sphincteric contraction are treated as fissures except they be luetic, when antisyphilitic remedies are added. Extensive ulcers in the middle and upper rectum are treated through the proctoscope with the cautery or caustic. When they are numerous, superficial and scattered throughout the rectum, irrigation daily with a mild solution of ichthyol 1%, permanganate of potash 1%, or weak solutions of boric acid, silver nitrate, Carlsbad salts or

krameria, works well but when the ulcerated areas are chronic and deep as indicated by frequent evacuations containing a large amount of pus, blood, mucus and other *debris,* stronger solutions are employed until there is improvement and in addition a warm emulsion composed of olive oil, bismuth and iodoform is injected in small amounts at night for the purpose of allaying tenesmus and pain. In aggravated cases where the colon and sigmoid are involved, and the above measures fail, appendicostomy or cecostomy is performed.

Procidentia Recti.—Where the mucous membrane only protrudes, a cure can sometimes be effected by (a) correcting a cough, diarrhea, constipation or other cause of straining; (b) securing semi-solid movements; (c) having the child stool while in the recumbent posture; (d) injecting an alum, zinc or other astringent solution after each action; and (e) placing a pad of gauze over the anus and tightly strapping the buttocks.



Fig. 5. Extensive Procidentia Recti.

When this treatment fails, I infiltrate the mucosa with water or a eucaine solution at a number of points until glassy white welts are formed, these in turn are seized, pulled down, ligated and left to slough off as in hemorrhoidal operations. The procedure is nearly always successful because a sufficient exudate is thrown out to glue the mucous and muscular coats together and shortening and narrowing of the rectum ensues as healing of the ulcerated areas takes place.

Where both the mucosa and muscularis protrude (Fig. 5) I (a) remove a cuff of the mucous membrane; (b) fold and suture the muscular tunic upon itself; and (c) complete the operation by suturing the divided edges of the mucosa. In very extensive cases of procidentia complicated by invagination of the sigmoid flexure into the rectum, the procedure is as follows: (a) the abdomen is opened, the bowel pulled up until taut and then anchored to the anterior parieties by the author's sigmoidopexy; (b) linear cauterization is made to the middle and upper rectum through the proctoscope and finally (c) a diamond-shaped piece of tissue including a part of the lower rectum, the sphincter and the post-anal tissues is removed to narrow the bowel, shorten the muscle and tighten the external parts about the rectum.



Fig. 6. Rectal Polyp (Adenoma).

Polyps (Fig. 6) located at or near the anus are ligated and excised after having been anesthetized at their attachment with sterile water or eucaine solution. When sit-

uated higher up where the mucosa is less sensitive, each in turn is exposed by the aid of the proctoscope and a Gant valve clamp is snapped upon their pedicle and left to slough off. This method of removing polyps is admirable because it takes but a moment, is certain, causes no pain or bleeding and does not require ether. The older procedure of removing them by torsion is to be condemned because it is painful, extensively lacerates the mucosa and is frequently followed by copious bleeding and a lengthy convalescence.

In cases of long standing where the growths are numerous, large, ulcerated and scattered throughout the colon or sigmoid flexure, nothing short of colostomy or extirpation of the diseased bowel effects a cure.

Hemorrhoids.— As will be seen by a glance at the above table, internal hemorrhoids occur in infants and children almost as rarely as cancer. These tumors are painlessly removed in a moment by ligation after having been infiltrated with water or eucaine.

Thrombotic piles are transfixed at their base with a curved bistoury, split open and packed with gauze which arrests bleeding and acts as a drain to prevent their refilling.

Cutaneous hemorrhoids are snipped off with scissors and the wound is allowed to heal by granulation.

Stricture.— Where the lumen of the gut is diminished through swelling of the mucosa or exudates in and outside the rectal wall, the discomfort arising therefrom is lessened or completely overcome by regulating the stools, irrigating the bowel, making soothing and stimulating topical applications to the diseased gut and by dilating the constricted bowel with the fingers or bougies.

Moderate cicatricial strictures are improved by divulsion *gradually* with bougies or *forcibly* with the fingers, but their division is preferable because more lasting results are obtained and the operation takes no longer. The technic consists in guiding a probe-pointed bistoury through the stricture and cutting it and the sphincter posteriorly as it is withdrawn and in packing the wound with gauze.

Both divulsion and division are contraindicated when the stenosis is located above the peritoneal attachment, because peritonitis will surely follow rupture or perforation of the gut.

There is but one cure for a scar stricture and that is complete extirpation, a procedure which entails some danger. Where there are multiple constrictions or a very long stricture and much peri-rectal thickening, extirpation will take considerable time, cause much shock and would likely prove fatal in young children and for these reasons it is advisable to substitute colostomy for excision until the child has grown older and stronger when the artificial anus may be closed and the stricture removed.

Congenital Deformities.—The treatment of imperforations of the rectum and anus (Figs. 7 and 8) in the newly born is varied according to the deformity. When the outlet is partially or completely blocked by a fold of skin or fibrous tissue, it is caught with forceps and removed by scissors, but when the anus is abnormally narrowed by connective tissue, it is split and the wound is drained and occasionally stretched as healing takes place. In cases of deformity where the feces find a *free* exit through the vagina,

bladder, buttock or elsewhere, operation is postponed until the child is older, but when the opening is small and there is danger from obstruction, it is enlarged or a temporary vent is formed in the interischial or inguinal region.

In *imperforate anus* where the *cul de sac* terminates low down and the sphincter is intact, the anus is formed at the usual location, but when the muscle is absent it is made further forward or backward according to indications. The operation is begun by an incision extending from the perineum in front to the coccyx behind, which splits the sphincter. The wound is deepened upward to the blind rectum which, after being freed, is brought down and sutured to the anal skin, after which the sphincter and wound are sutured about it. The coccyx is removed when additional room is necessary but the peritoneal cavity is not opened except when imperative, and is then closed before the bowel is anchored. When the gut cannot be brought down to the perineum, it is sutured to the skin of the sacral or coccygeal regions. In all cases a fair sized rubber tube is left projecting from the rectum through which the meconium gas and feces escape.



Fig. 7. Congenital Absence of the Rectum.

In *imperforate rectum* the anus may be normal and an obstruction not be suspected until dangerous symptoms arise. In such cases, where the terminal extremity of the gut is near the surface, it is incised, evacuated and washed out, but when the condition of the patient permits, the rectum is brought down and sutured to the anal region.

In distressing cases where a part of the rectum is obliterated, it is freed and anchored at the most available point or a permanent artificial anus is established. When colostomy is performed, according to the writer's inter-muscular plan, the patient has fair control over the evacuations and often requires a laxative.



Fig. Congenital Membranous Obstruction of the Rectum.

Sequelae following operations performed for the relief of ano-rectal deformities frequently need treatment to overcome constipation and prevent obstruction. Usually the trouble is caused by the small size of the original opening or a long narrow stricture which has formed where the gut retracted. In both conditions the lumen of the bowel is increased by incising and subsequently dilating it or in cases where no previous attempt has been made to bring the *cul de sac* to the anus this is done if feasible. When neither of these procedures are possible a permanent artificial anus is formed.

Fistulae.—Fortunately in children fistulae are superficial, short and of the complete variety (Fig. 9) and require but a slight operation under local anesthesia.

The following are the steps in my operation for complete fistula: (a) enough of a ⅛% eucaine solution is injected into the sphincter and tissues overlying the tract to form a white line which indicates desensitization; (b) the lower blade of a Gant probe-pointed scissors is then introduced into the outer opening and made to travel along the sinus, which, together with the sphincter, is rapidly divided by a succession

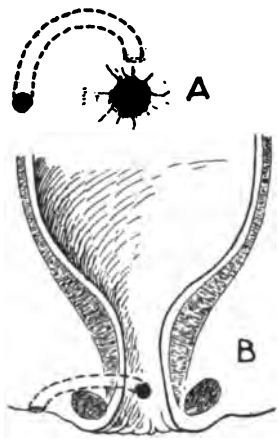


Fig. 9. Complete Fistula in Ano.

of cuts; and (c) after which the wound is packed with gauze.

Abscesses irrespective of their extent and location, are freely incised, curetted, cleansed and drained to relieve pain and prevent burrowing of the pus.

Pruritis ani may be induced by local lesions which incite a discharge, worms and foreign substances which get caught in the anal, mucous or skin folds. When due to the former the condition causing the discharge is corrected and when to the latter, frequent cleansing of the anus with plain or salt water will afford the necessary relief. In cases where itching has existed for a considerable time and there is a chronic dermatitis, this is remedied by applying iodine or a nitrate of mercury ointment.

Impactions composed of *feces, seeds* or *fruit stones* are treated alike, but little or nothing is accomplished towards their dislodgment or expulsion by means of oils or cathartics internally administered. Recent fecal impactions are occasionally softened and evacuated by repeated enemata (Fig. 10) of warm water, oil or glycerine alone or in combination, but these measures have no effect upon mucous covered masses. Peroxide of hydrogen in full strength when in-



Fig. 10. Sure method of introducing the Colon Tube.

jected in liberal amounts has a decided tendency toward the breaking up of the fecal tumor into numerous smaller masses so that it can be washed out. Marked impactions, which cannot be dislodged by friction, massage and enemata, are removed by force. When low they are broken up or penetrated by the finger or handle of a spoon, but when high up in the rectum or sigmoid this is accomplished through the proctoscope with a gouge, after which they quickly evacuate by irrigation. Fecoliths which become encysted and cannot be dislodged by treatment instituted from below or by way of the mouth, are removed by colostomy or an outlet is made above them.

Venereal warts are removed with scissors without anesthesia or they are dried up with a mixture of equal parts of calomel and tannic acid.

Hypertrophied anal papillae (Fig. 11) causing pruritus and tenesmus are snipped off under infiltration anesthesia.

Hypertrophy of the anal sphincter inducing sphincteralgia and constipation is quickly and successfully treated by dividing the muscle exactly as in fissure operations and painful defecation resulting from an abnormally small anus is treated in a similar manner.



Fig. 11. Enlarged Anal Papillae which induce Pruritus—Sphinctive Contraction and Constipation.

Hypertrophied rectal valves are divided by placing a Gant valve clamp upon them and allowing it to slough out.

Fecal incontinence following injuries or operations is improved either by narrowing the anus, through cauterization and the production of scar tissue or by isolating and approximating the ends of the divided muscle.

My case of *posterior proctocele* was relieved by removing a section of the bowel and suturing the edges of the wound and the *bifurcated* rectum was treated in the same way.

Foreign Bodies.— Small, smooth and sharp pointed objects are removed with the finger or through the proctoscope with forceps, but when large or encysted, much annoyance is saved by splitting the sphincter muscle under eucanization so that they can be quickly removed without pain.

Diseases, Injuries and Deformities of the Coccyx.— When the coccyx is displaced, fractured or inflamed and causes discomfort or painful defecation, its removal is indicated. The steps in coccygeal excision



Fig. 12. Sacrococcygeal Cyst.

consist in (a) folding the tissues between the thumb and fingers and dividing them transversely and down to the tip of the coccyx with one cut of the scissors; (b) a Gant coccygeal elevator is hooked in the bone and it is lifted upward, freed and removed by four cuts made at the sides, beneath and transversely through the base of the coccyx; and finally by (c) closure of the wound with interrupted sutures. This procedure is superior to the older excision

operation because it requires but three minutes, is practically bloodless, primary union is obtained and the only paraphernalia required are strong blunt pointed scissors, hook, needle, and a piece of catgut. The success of the operation is due to the fact that the cuts are made without injury to the blood vessels, since the scissors point upward, outward and away from the rectal vessels at all times.

Sacro-coccygeal cysts (Fig. 12, Lord's case) and tumors require skillful handling and routine treatment is impossible because of their variable size, composition, method of attachment and the fact that they may contain fluid, sabaceous matter, hair, or supernumerary limbs. They have been treated with carbolic acid and iodine injections, and with the cautery, but without success. Tapping and their partial removal has given temporary relief, but when feasible the tumor or cyst is carefully dissected out and the wound drained and closed.

Sacral dermoids, indicated by a dimple or moisture over the bone, are operated upon by infiltrating their overlying tissues with eucaine or water, removing the sac and draining the wound.

Malignant growths (sarcoma and carcinoma) require a difficult and prolonged operation and recur quickly after extirpation, and for these reasons the little patient should be made comfortable by palliative measures and not be subjected to operation except in very favorable cases.

From what has been said it may be correctly inferred that rectal diseases, with the exception of cancer and congenital deformities of the bowel, are readily curable, and further, that the treatment required is simple, devoid of danger, leaves few sequellae and causes little suffering. If such good results are so easily obtained, has not the time arrived when the family physician and pediatrist should prepare themselves and treat this class of affections in a more satisfactory manner than has heretofore been done? Should they do this, the writer believes that much unnecessary discomfort and pain could be saved to infants and children and many of the serious bowel affections now encountered in adults could be prevented.

Obstipation:—I wish now to direct your attention to some statistics relating to mechanical constipation, a condition which is often congenital or acquired early in life owing to the anatomical arrangement of the bowel in infancy and early childhood. In the *first table* I have tabulated the cases of ano-rectal and in the *second* those of abdominal obstipation.

Comments on tables 2 and 3.—In studying these statistics of 106 cases of obstipation, it is interesting to note the large number (35) and widely varying conditions which have entered into their causation.

Nearly all the cases of ano-rectal obstipation were cured or very greatly benefited, there being no improvement in but two instances and only four deaths occurred in the seventy cases. The results obtained are no better than one would expect because of the simple nature of the rectal ailments causing the trouble and their easy curability. Of the four deaths, two were due to cancer and the others to acute obstruction from congenital deformities and all four patients were beyond saving when seen.

Fourteen different lesions were found to account for the thirty-six cases of abdominal obstipation and the results in this series show that twelve were cured, sixteen improved and eight not benefited. The results obtained were very good but not so flattering as those following the treatment of rectal obstipation, but this is not to be wondered at, because the lesions were more serious and laparotomy was necessary.

About one-half of the constipated infants and children examined suffered from

Ano-Rectal Mechanical Constipation (Obstipation) in Infants and Children under Twelve Years of Age or Younger.

TABLE 2.

No. of Diseases.	Causes and Complications.	No. of cases.	Male.	Female.	Cured.	Improved.	Unimproved.	Died.
1	Fissure in ano	10	6	4	10	..	..	..
2	Ulceration, non-specific	4	2	2	3	1	..	..
3	Ulceration, congenital syphilitic	2	..	2	1	1	..	..
4	Stricture, congenital syphilitic	1	1	..	..	1	..	..
5	Stricture, traumatic (encysted chicken bone)	1	1	..	1	..	..	..
6	Stricture from sloughing (extravasation of urine)	1	1	..	..	1	..	..
7	Congenital deformities (complete and incomplete occlusion)	10	6	4	8	..	..	2
8	Congenital deformities, operations following (sequelae)	7	4	3	4	2	1	..
9	Coccyx, anterior deviation of	1	1	..	1	..	..	..
10	Coccyx, congenital absence of with anal opening at sacral termination	1	1	..	..	..	1	..
11	Coccyx, congenital absence of, causing posterior rectocele	1	..	1	..	1	..	..
12	Bifurcated rectum	1	1	..	..	1	..	..
13	Impaction from seeds and fruit stones	5	4	1	5	..	..	..
14	Ascarides lumbricoides, impaction from	1	..	1	1	..	..	..
15	Foreign bodies	4	4	..	4	..	..	..
16	Polypi	4	3	1	3	1	..	..
17	Hypertrophy of anal papillae	1	1	..	1	..	..	..
18	Hypertrophy of sphincter	11	6	5	11	..	..	..
19	Hypertrophy of rectal valves	2	1	1	1	1	..	..
20	Sarcoma	1	..	1	..	..	..	1
21	Carcinoma	1	1	..	..	..	..	1
21	Total	70	44	26	54	10	2	4

Abdominal Mechanical Constipation (Obstipation) under Twelve.

TABLE 3.

No. of Diseases.	Causes and Complications.	No. of cases.	Male.	Female.	Cured.	Improved.	Unimproved.	Died.
1	Hirschsprung's disease	3	1	2	..	2	1	..
2	Dilatation of colon	8	5	3	..	5	3	..
3	Colonic ptosis	4	2	2	..	2	2	..
4	Invagination of sigmoid flexure into rectum	7	3	4	5	1	1	..
5	Adhesions following typhoid	2	1	1	1	1	..	..
6	Adhesions following localized peritonitis	1	..	1	1	..	..	..
7	Adhesions following appendectomy	1	1	..	..	1	..	..
8	Angulation sigmoid flexure (congenital)	1	1	..	1	..	..	..
9	Angulation hepatic flexure (cord binding to abdominal wall)	1	1	..	..	1	..	..
10	Volvulus, partial (chronic)	3	1	2	2	..	1	..
11	Enterospasm, chronic intermittent (foreign body in sigmoid)	1	1	..	1	..	..	..
12	Mesentery abnormally long (twisting and adhesions)	1	1	..	..	1	..	..
13	Mesentery, abnormally short (angulation)	1	..	1	1	..	..	..
14	Hypertrophy of O'Beirne's sphincter	2	1	1	..	2	..	..
14	Total	36	19	17	12	16	8	0

COMBINED STATISTICS OF TABLES 2 AND 3.

21	Ano-rectal mechanical constipation (obstipation)	70	44	26	54	10	2	4
14	Abdominal mechanical constipation (obstipation)	36	19	17	12	16	8	0
35	Total	106	63	43	66	26	10	4

mechanical obstructions of one kind or another. This appears to be a startling statement to make since habitual constipation is usually thought to be the most common type of costiveness, but it must be remembered that my work is largely surgical and for a number of years I have taken a great interest in the treatment of surgical constipation and have written considerable upon this topic. This would naturally lead to my getting a considerable number of these cases, whereas the internist would get the atonic type. Experience, however, warrants my belief that the cause of constipation is of a mechanical nature very much more frequent than physicians and surgeons at present recognize, and occurs in about 25% of the cases.

Treatment of Mechanical Constipation (Obstipation).—The therapeutic measures, medical and physical, employed to relieve and cure ordinary or atonic constipation are, as a rule, unreliable in obstipation because here we have a surgical disease, and nothing short of an operation will permanently correct or remove the impediment to the fecal current.

Elsewhere[1] I have fully described the surgical procedures indicated in the treatment of the various forms of mechanical constipation and need not do more here than to state how the operations are performed without giving their steps.

Dilatation of the colon and Hirschbrung's Disease are corrected in the very young by scarifying and plicating the colon and sigmoid flexure longitudinally to narrow the bowel, after which it is sutured to the anterior abdominal wall at one or more points to overcome ptosis, but when there are other complications, or the bowel is paralytic, the writer makes it a practice to sever the ileum near the cecum; close the divided ends and anastomose the proximal extremity with the sigmoid flexure or rectum (ileosigmoidostomy ileorectostomy). In older children, who can withstand a capital operation, where the gut is enormous in size, its walls are thin and the propulsive power is destroyed, the ileum is joined to the sigmoid flexure or the colon is resected or excised.

Colonic-ptosis and invagination of the sigmoid flexure (Fig. 13) are easily corrected in most instances without danger by scarifying the abnormal portion of bowel, lifting it upward and anchoring to the anterior parieties at as many places as required by suspensory sutures tied across rubber tubings.



Fig. 13. Chronic Invagination of the Sigmoid into the Rectum, a frequent cause of Obstipation in adults and children.

Adhesions are dealt with according to their character. When a segment of gut is glued to another piece of intestine or organ by exudates, separation is accomplished by wiping the gut loose with gauze. When it is attached by fibrous bands, they are divided with scissors, but when the adhesions are extensive the bowel is carefully freed by

[1]Gant: Constipation and Abdominal Obstruction, 1909.

dissection while in plain view, after which raw surfaces are covered with peritoneum.

Angulations and twists (volvulus) of the colon are straightened out by dividing adhesions, the abnormal mesentery or other structure which pulls upon the bowel, or when induced by a misplaced organ or tumor, the former is replaced and the latter is removed.

Enterospasm caused by impacted seeds, fruit stones or the pressure of a foreign body is often relieved by catharsis, belladonna, hot fomentations and enemata, but when these measures fail the offending object is removed through an opening made in the intestine.

Narrowing of the bowel resulting from an hypertrophied O'Beirne's sphincter or stricture is sometimes relieved by dieting, irrigation and medication where the cause is inflammatory or ulcerative, but when the obstruction is due to cicatrization, divulsion or excision of the stricture is practiced.

The treatment of ano-rectal obstipation does not require separate consideration because the methods of dealing with the diseases causing it have already been described.

Direct Bowel Treatment.—Up to date physicians know that better results are obtained in the treatment of inflammatory, ulcerative, parasitic and other bowel affections when medication is carried directly to the lesions than when it is made to reach them indirectly as when given by mouth.

Entero-clysis and irrigation may be accomplished from *below* through the anus or from *above* through an opening made in the gut, and however done it will prove successful, providing all the lesions are reached. Treatment from below would be ideal if this could be satisfactorily accomplished, because the patient could remain at home and not be subjected to operation. But unfortunately it cannot, because of the difficulty frequently encountered in passing the tube sufficiently high to carry the fluid to all parts of the diseased gut.

Appendicostomy, cecostomy and my operation which provides a means of irrigating both the small and large intestine were originated with the object of procuring a means of through and through irrigation.[1]

Appendicostomy once so popular is fast falling into disrepute, because the appendix is frequently bound down by adhesions, blocked, strictured, too short, or diseased, which makes it unfit for irrigating purposes, sloughs off, or its opening closes. When appendicostomy is practiced, the appendix should be opened and a Gant appendiceal irrigator (Fig. 14) introduced during the operation so that irrigations can be started immediately.

Ordinary cecostomy may be employed when the disease is limited to the colon, but is not effective when the small gut is involved.

Gant's Cecostomy with a Provision for Small and Large Bowel Irrigation.—I believe that this procedure is superior to other operations devised for the purpose of carrying the treatment directly to the bowel, because it is applicable in the treatment of lesions located in the small intestine, the large bowel or both, the operation is simple, devoid of danger, requires but a few minutes, and provides a certain means by which the physician, interne or nurse can irrigate all parts of the bowel immediately or later according to indications. Concisely des-

[1]The Indications for and a New Technique Pertaining to the Operations of Cecostomy and Appendicostomy in the Treatment of Intestinal Lesions. *Interstate Medical Journal*, Vol. XVII, No. 9.

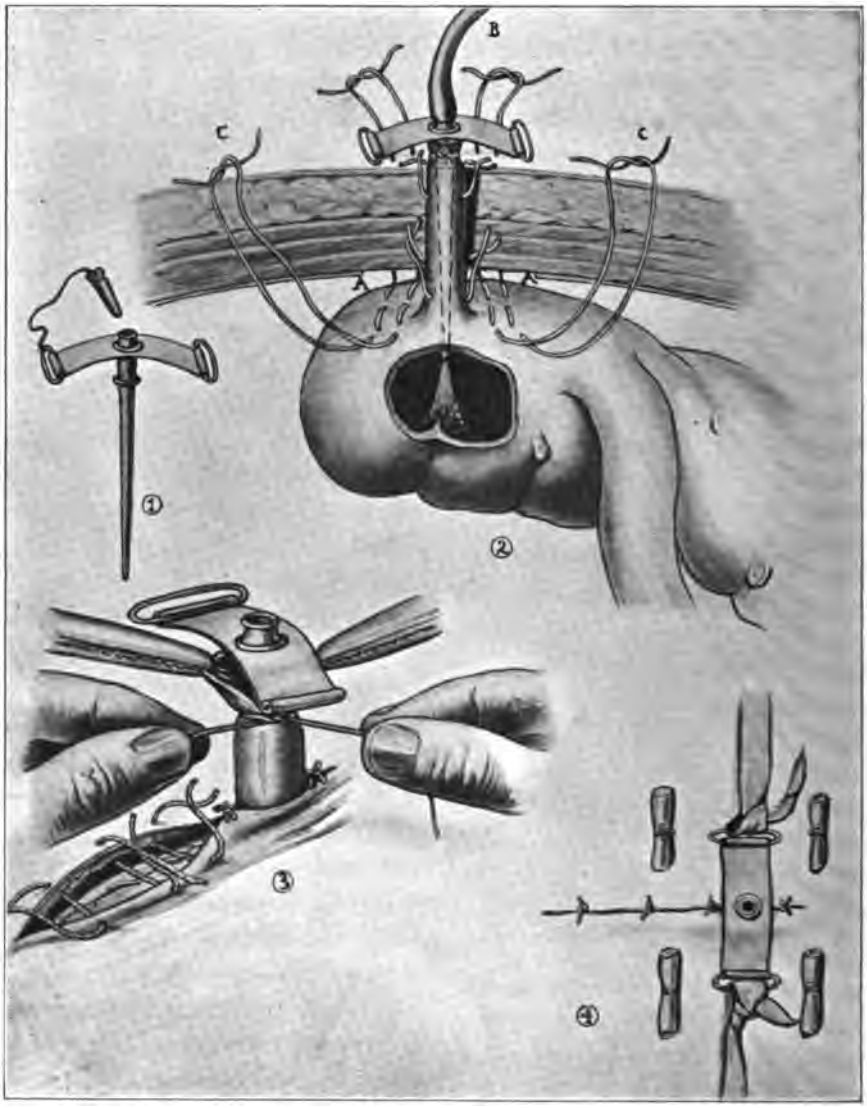


Fig. 14. Steps showing Gant's Appendicostomy which provides for Immediate Irrigation in the Direct Treatment of Bowel Diseases.

1. Gant's appendiceal irrigator.

2. Cecum and appendix in position.

3. Method of ligating the appendix about the irrigator and closure of the wound.

4. Shows the irrigator in place and the attached pieces of tape which pass around the body, and retain it in place while tied, and also the rubber tube across which the suspensory stitches CC are tied.

(a) Shows peritoneum removed and the gut being brought in contact with the transversalis fascia.

(b) Tube attached to irrigator.

(c) Suspensory sutures which attach the scarified cecum to the abdominal wall.

cribed, the steps in the writer's cecostomy are as follows:

1. Through an incision made over it, the cecum is brought into the wound and three purse-string sutures are introduced into its outer surface opposite the ileo-cecal valve and the gut opened within the suture line.

2. My metal, or preferably rubber entero-colonic irrigator, (Figs. 15 and 16) is now pushed across the cecum and guided through the ileo-cecal valve into the small intestine by means of the thumb and fingers of the left hand and is held there by an assistant until the infolding purse-string sutures are tied and a circular cone-shaped valve is formed around the tube.

3. The cecum is scarified and two suspensory sutures are introduced at the sides of the irrigator and then carried through the abdominal wall by means of a long handled needle, where they are tied across rubber tubings.

4. After the wound has been closed by the layer method the metal irrigator is retained in position by attached pieces of tape which encircle the body, but when the rubber tube is used it is fastened in the same way or to the skin by an adhesive strip after the irrigating tubes have been closed with cravat clamps.

5. The dressings, including an outer covering of rubber tissue, are now applied after having been split to allow the irrigator to project through them.

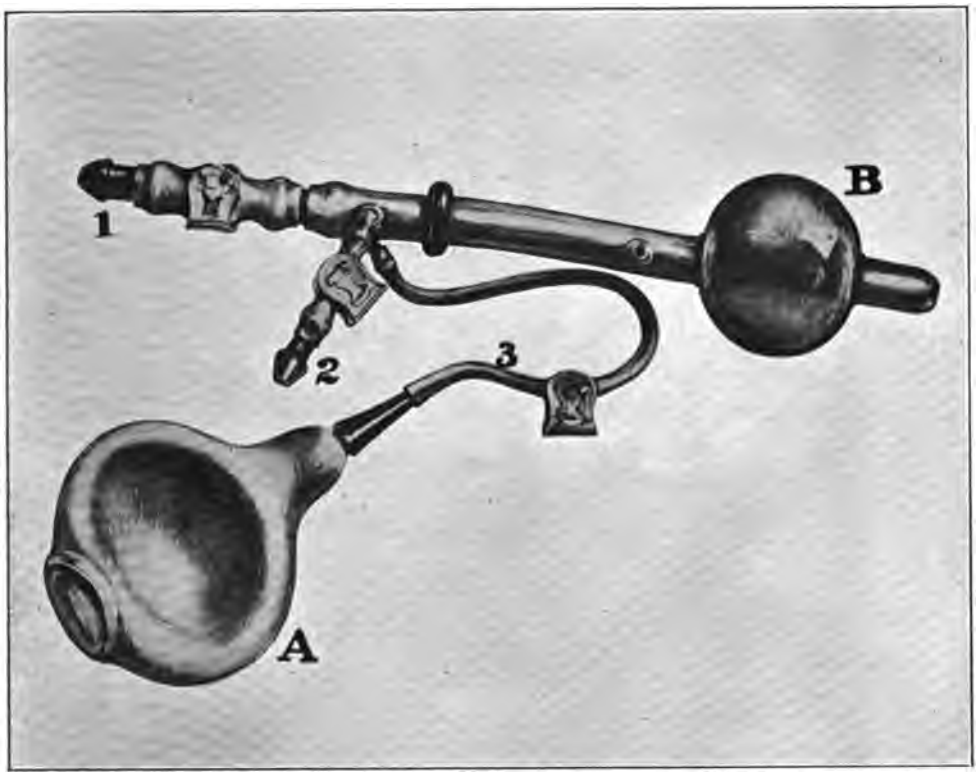


Fig. 15. Gant's Entero-Colonic Irrigator.

(a) Bulb for blowing up inflating bag.
(b) Inflating bag.
1. Tube through which the irrigating fluid reaches the small intestine.
2. Tube connecting with the colonic irrigator.
3. Inflating tube.
The movable hard rubber ring is used to measure the distance to the ileo-cecal valve, which varies in thin and stout people.
The various pipes are seen closed by five cent cravat clamps.

Comments on and indications for Gant's cecostomy.—I have employed this operation

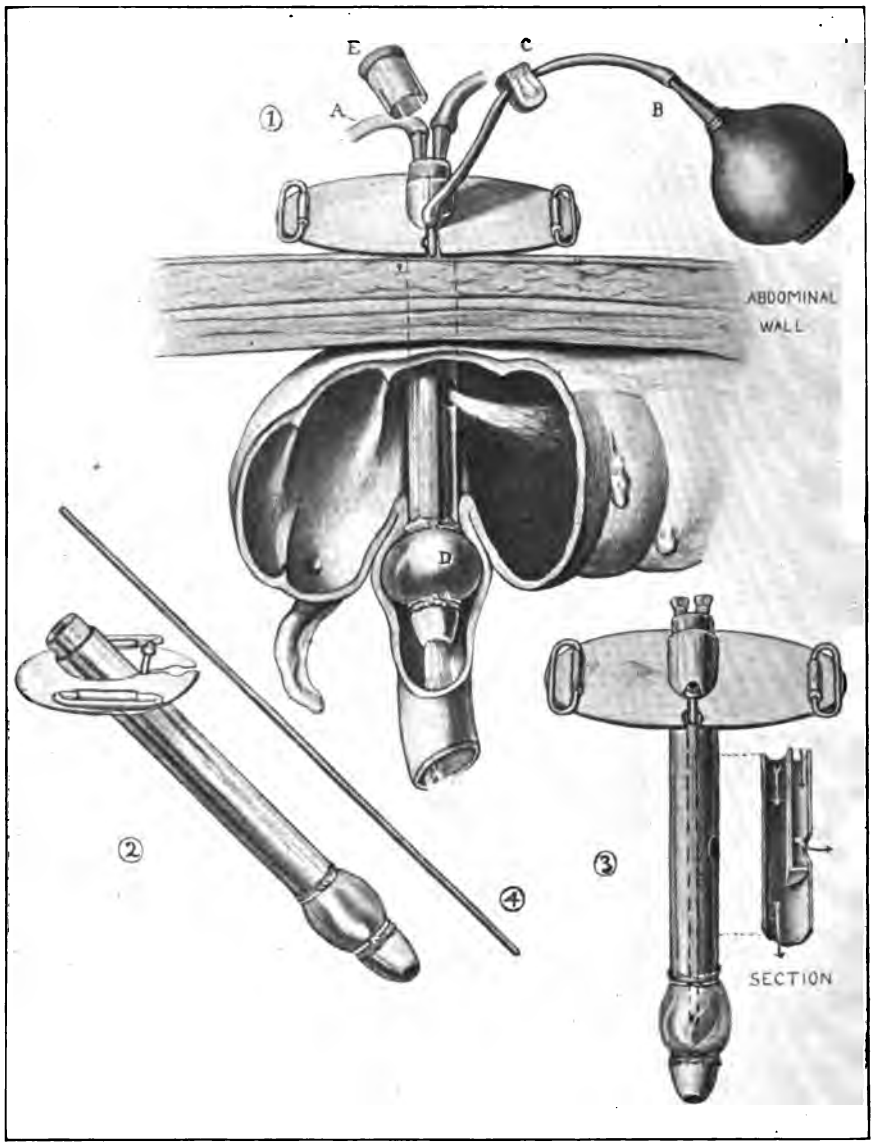


Fig. 16. Steps showing Gant's Cecostomy which provides for Irrigation of both the Small and Large Intestine.

1. Shows apparatus in position.
2. Side view of Gant's entero-colonic irrigator.
3. Front and sectional view of the same.
   (a) Irrigating tube.
   (b) Inflating attachment.
   (c) Clip for closing same.
   (d) Cover for irrigator.
   (e) Shows inflating bag distended with air to prevent return of the solution into the cecum.
4. Celluloid guide employed in removing and re-introducing the irrigator for cleansing and repairing.

since January, 1906, and published it with indications August 15, 1908,[1] but since then slight improvements have been made in the technic. The operation has been performed twenty-two times upon adults in the direct treatment of inflammatory, ulcerative, parasitic, specific and other affections involving the various parts of the intestine, and the results following this procedure have been most flattering.

I have performed cecostomy but three times on children under twelve years of age. In all instances good results were obtained and I am convinced that the operation has a wide field of usefulness in the treatment of intestinal affections in infants, children, and adults, and that it should take precedence over enterostomy, colostomy, appendicostomy, Gibson's and ordinary cecostomy in this class of cases.

In a paper read before the Medical Association of Greater New York, April 20, 1908, the claim was made that my cecostomy is indicated in the treatment of enteritis, entero-colitis and catarrhal, tuberculous, dysentery, syphilitic and gonorrheal colitis, ptomain poisoning, intussusceptic ileus, peritonitis, cholera, typhoid fever, intestinal parasites, the manifestations of intestinal auto-intoxication, ordinary and pernicious anemia, intestinal feeding, malnutrition, and following operations upon the mouth, throat, or stomach, and in gastric stricture, ulcer, cancer or other disturbances where rest of the organ is indicated. I also called attention to the fact that by means of this form of cecostomy, various intestinal diseases can be investigated and that the procedure could be used to determine the amount and nature of the intestinal juices and discharges, the character of the feces, the direct action of salines and other cathartics when injected directly into the small and large bowel, the marked immediate vaso-motor effect following hot and cold entero-clysis, to diagnose angulation, twisting, ptosis or dilatation of the intestine by X-raying the bowel after it has been coated over with bismuth injected for the purpose, and for the study of many other interesting problems.

In concluding these short talks on colonic sigmoidal and rectal ailments, I wish to say that if I have interested you in this common but neglected class of affections and suggested to you practical points in their diagnosis and treatment which would be of assistance in your future work, I will feel myself amply repaid for the trouble, time and labor expended in their preparation.

137 East Sixty-Third Street.

[1]Gant; Local and Surgical Treatment of Chronic Diarrhea With Description of a New Operation for Irrigating the Large and Small Intestine. *New York Med. Jour.*, August 15, 1908.

MEDICAL HINTS.

ITCHING.—Ralph Bernstein recommends a lotion composed of pulv. calamine, pulv. zinc oxide, and glycerine, of each a dram, to four ounces of lime water. It should be well shaken before applying, and be applied by pouring a little of the lotion into a saucer, moistening a piece of linen with it, and simply dabbing the itching surface. Cotton cloth absorbs too much of the lotion.—*Med. Standard.*

DYSMENORRHEA.—In some cases an inunction such as the following may be employed with advantage for its stimulating effects upon the pelvic circulation:

Acid Salicyl. .....
Olei Terebenth, aa.....dr. j
Adipis Lanae .....oz. j

to be applied by inunction at night upon retiring.—*Med. Standard.*

THE PRESENT STATUS OF CRANIAL SURGERY.[1]

BY

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Since the subject of surgery of the nervous system is by comparison with other branches of surgery a very recent one and one in many ways still unexplored, I have gladly embraced this opportunity of bringing some of its interesting features before you. As recently as 1887 v. Bergmann and Horsley excised for the first time a portion of the cortex for Jacksonian epilepsy. In 1888 Horsley diagnosed, with Gowers, and removed the first spinal tumor. Several years later the first brain tumor was removed by Godlee. Less then ten years ago v. Bergman said, "Except in certain cases, I believe it is proper to limit the operations on the brain to tumors of the motor region and to those portions of the brain immediately adjoining the latter." When we consider these facts it must be apparent that we are but at the threshold of this field of surgery.

The entire field of cranial surgery is too big to permit of discussion here and therefore I shall confine myself to a very few phases of the subject.

Up to the present time neurological surgical cases have been treated by the general surgeon and no doubt, in many places this will continue to be the custom. It has, however, seemed clear to me for some years that for a proper treatment of these cases a surgeon should have acquired a special training. Such startling results as have from time to time been reported from Horsley's and Cushing's clinics, results absolutely different than those obtained by general surgeons elsewhere, can be explained but in one way. A thorough diagnostic knowledge is of prime importance to a surgeon who would undertake these cases. No one would think of having his abdomen opened by a surgeon who did not know the position of the appendix, and yet repeatedly this very sort of thing happens in operations on the brain. If it is important to know that the appendix lies in the right iliac fossa, how far more important is it to know the position of the leg or arm centre? A thorough training in neurological anatomy, then is essential in the first place, and secondly, a knowledge of the special methods of handling the brain. This phase of the subject is such a vital one that one or two instances may serve as examples. A patient had clearly a tumor in the leg area; in opening the skull the surgeon exposed the face and arm centre and did not consider the possibility that he might be dealing with an inoperable condition which would require a well-placed decompression operation. The intracranial tension was so great that manipulation of the brain was quite impossible and there occurred hemorrhage from the pial vessels. The tumor was not found, the patient died the next day, and the tumor was at the place indicated by the diagnosis. Such examples might be duplicated. Clearly such a case indicates inadequate knowledge of cortical anatomy and a lack of manipulatory skill. As regards the properly placed decompression operation, I recently saw a woman who had had a decompression over her right motor area for a pituitary tumor. Not only was the patient not relieved but had an enormous hernia larger than a very large grape fruit, was

[1]Part of an address read before the Brooklyn Society of Neurology, Jan. 26, 1911.

totally blind, and had a left hemiplegia due to the bulging of the motor area into the hernia. Cases of this sort do not encourage the general medical man or neurologist to permit surgical interference. Such deficiencies on the part of the surgeon must be corrected before good results can be attained, but that is not enough,—he must be able to diagnose and localize the condition and also be absolutely familiar with the use of the ophthalmoscope.

In taking up the question of diagnosis I shall confine myself to those symptoms to which not enough attention is usually paid and which should prove of value in the early diagnosis.

The general symptoms of intracranial neoplasms—headaches, dizziness, vomiting and dimness of vision need no mention, nor do I speak of the symptoms pointing to a lesion about the motor area. It is the regions which yield fewer symptoms that interest us particularly.

Lesions of the frontal region have seemed well nigh unlocalizable and were very readily confused with cerebellar disease. Even now this confusion may occur but some of the following symptoms are of great help. The mental status of the patient, either one of euphoria or one of depression, is significant. The loss of the abdominal reflex on the side opposite the lesion is important, but a symptom to which comparatively little attention has been paid in this country. Its meaning is clear. The muscles of the abdomen are represented more anteriorly in the cortex than any of the motor centres, hence pressure on this region may cause loss of the abdominal (a superficial) reflex before there be any increase in the deep reflexes associated with the leg or arm. The unilateral tremor of the hand is also often present. Apraxia, the inability to recognize the use of objects, a sort of motor aphasia of the hand, at times confused with astereognosis, the inability to recognize objects, and unilateral anosmia may all help in clearing up an obscure frontal lobe condition. Unilateral choked disc is, in frontal tumors, of particular importance where it may aid in localizing a lesion, whereas its value for localization I believe is diminished the further posterior in the cranial cavity the lesion lies. The surgical treatment of such a tumor, when diagnosed, may offer considerable difficulty. An exposure of the frontal region at the very outset may result in failure to remove the tumor, while a preliminary decompression or lumbar puncture after the skull is open may relieve tension sufficiently to enable a removal of the growth immediately or at a subsequent sitting.

Another region which has offered difficulties is the temporal lobe. Here an intelligent patient can be of more than ordinary assistance, for the diagnosis depends, to a very great extent, upon subjective sensations. Thus pure subjective sensations of smell point beyond a doubt to the tip of the temporal lobe, particularly the hippocampal gyrus. Whether careful records of a large number of cases will eventually be helpful in still more accurately diagnosing the position of the lesion, according to the type of subjective sensation of smell, only the future can tell. Thus in one patient the odor always noticed was a foul one, in another some article of food, and in a third the odor of blood. Such slight differences in symptoms may in time be enough to warrant our undertaking different surgical procedures to cure our patients. At the present state of our knowledge a subjective sensa-

tion of smell of any sort points to the hippocampal lobe. The best method at present of attacking tumors in this region is by a transtemporal route through a silent area of the temporal lobe. Subjective sensations of smell and hearing combined suggest a different region, for to get these two symptoms from a tumor, either it must be large enough to involve both the hippocampal lobe and the first temporal convolution, or it must be situated at a point where fibres from these two regions come together and are pressed upon or involved. If together with these symptoms the patient has also noticed visual sensations, such as colored lights, flashes of golden or other colored lights, the localization of the lesion must be changed, for we must consider also the paths of the visual fibres. Such a lesion can only be placed where fibres controlling all these three sensations come together, and such a point can only be in Wernicke's field. Patients with temporal or temporosphenoidal tumors may also present the so-called "dreamy state" in which they complain of a feeling of unreality, that is, their relation to their surroundings seems changed. They at times seem to be observing themselves as in a mirror or from afar, and are quite oblivious of their own identity. All these symptoms no doubt, will become more and more differentiated, so that finer distinctions may be drawn and enable the surgeon to know the point of attack with the same degree of accuracy as enables him today to distinguish hepatic from common duct disease.

Deep seated lesions of the brain must also be made accessible and incisions through the cortex, with special reference to the lamination and course of fibres, will become the rule. Even today we have learned a moderate amount of veneration for certain regions; thus no surgeon ought approach, if he could avoid it, an occipital lobe tumor by making his incision through Gennari's streak, or a deep seated tumor under the motor area by going through the preerolandic substance. The primary or focal symptoms will be easier for us to distinguish from the secondary distant, or pressure phenomena, as our knowledge of the so-called silent areas of the cortex and the basal ganglia is extended. These distant symptoms are at times most troublesome and confuse the clinical picture. But there is constantly more light being thrown on them—thus several months ago Cushing published some new facts about transient ocular palsies. Sixth and third nerve palsies are common occurrences in cases of increased intracranial pressure, and he found that in such cases the branches of the basilar and posterior cerebellar arteries press on these nerves and cause temporary paralyses. This valuable discovery may also be employed in determining the indication for lumbar puncture. Up to the present time a suspected posterior fossa tumor has been a contraindication, but now it seems but a corollary to say that in any tumor where there are transient paralyses indicating marked intracranial pressure, a medullary collapse might result and hence such a procedure would involve grave danger.

The significance of epileptic convulsions as a localizing factor deserves even more attention than it receives at present. The general subdivision of convulsions, as laid down by Hughlings Jackson, into highest level, middle level, and lowest level fits is the most valuable guide. In these, especially the first two, the aura plays a very important role, the first type arising from

the prefrontal region giving a psychical aura, while the middle level arising from the rest of the cerebrum produces a crude sensory aura according to the region from which it originates. The lowest level fits arising from the cerebellum are characterized by retraction of the head, arching of the trunk backward, flexion of the upper limbs and rigid extension of the lower limbs, the patient is not unconscious, the spasm is only tonic. These movements are forced movements and similar to the "progression movements" described by Horsley and Clarke in their stimulation upon animals of the dentate nucleus of the cerebellum.

Careful histories and records of such attacks no doubt will throw still more light on this symptom for localizing purposes.

Conditions in the posterior fossa present still more interesting problems. The diagnosis of conditions there is at times fraught with considerable difficulty and the treatment of these conditions gives the neurological surgeon much to think about. Here, too, in recent years the experimental anatomists and physiologists have helped us in our diagnosis. I only mention some of the cardinal points in cerebellar diagnosis.

At times we may have eighth nerve involvement on one or both sides, and this may be due to an extra or intracerebellar tumor. Unilateral deafness with involvement of the seventh nerve on the same side, and possibly also pain or paraesthesia along the course of the fifth nerve if the growth extends far enough forward, together with ataxia and falling to the side on which the deafness occurs, is such a striking picture of tumor of the acoustic nerve that such cases are now being frequently recognized. However, when a tumor becomes large enough to produce all these symptoms it is often already inoperable and we must recognize it earlier. Thus the very earliest involvement of the fifth nerve may be evidenced by areflexia of the cornea, that is loss of sensation of the cornea, a point which Oppenheim has laid much stress upon. Before ataxia is marked or even present there may be a characteristic attitude of the head, the so-called cerebellar attitude. When at rest the patient holds his head to the affected side with the chin to the opposite side. Its explanation is still causing discussion. In this country Cushing, I believe, considers it a protective measure on the part of the patient to relieve pain. This seems to me very doubtful, and, furthermore, I have had such patients hold their head straight without any discomfort. Horsley's explanation would appear more probable to me, that it is due to pressure on the superior cerebellar peduncle on the side of the tumor. This he has demonstrated experimentally on repeated occasions by cutting that tract in monkeys and immediately thereafter the animal holds its head in a typical cerebellar attitude.

Nystagmus may be a valuable guide, both as regards intra and extracerebellar tumors, as well as its relation to vestibular disease. Neumann and Baràny have added much to our knowledge of the subject and very recently the latter has gone particularly into the differential diagnosis of nystagmus due to disease of the semicircular canals and that due to cerebellar disease. In general, in cerebellar disease nystagmus is more marked when the patient's eyes are turned to the side of the lesion, whereas in labyrinthine disease it is more marked on looking in the opposite direction. The nystagmus of cerebellar dis-

ease becomes more marked as the disease progresses, while it becomes progressively less in the later stages of labyrinthine disease. Barany has furthermore shown that a patient with a cerebellar tumor when Romberg's test is tried will fall to the side on which his nystagmus is more marked, and this is not influenced by the position of the patient's head, while in labyrinthine disease the position of the patient's head may influence the direction of the fall.

Closely connected with this symptom are the disturbances of equilibrium, and when these assume the character of rotary sensations they may help us. Stewart and Holmes found that to such patients objects appear to move from the side of the lesion to the healthy side, while the patients themselves have the sensation of rotating towards the affected side in extramedullary tumors, and away from the affected side in intramedullary tumors. In tumors of the middle lobe, the vermis, patients have the sensation of rotating forward or backward in the middle line, or may complain that they appear to be walking constantly up hill or constantly down hill.

The cerebellar cortex plays practically no role in these symptoms while the cerebellar nuclei, the dentate, the globosus, embolus and roof nucleus, and their relation to Deiter's nucleus are of great importance. For the neurological surgeon this is of great moment, for how can he with impunity enter the cerebellum if he does not know either where these nuclei are or what their functions are. It may sound extreme to say that at no very distant date I believe surgical procedures directed towards such structures will be undertaken, but before long this ought to be the case. Even today in making our incisions into the cerebellum these structures must be considered, and if, perchance, an excision of a part of a cerebellar lobe is undertaken, which ordinarily is a ruthless thing to do, such a procedure should only be carried out with all due regard for the finer anatomical structures with which we are dealing.

One or two further points I wish to dwell on. First of all the eyes and the preservation of the eyesight. In the vast majority of cases the earliest symptoms are referable to the eyes. The first evidence of choked disc should at once be a danger sign and put us on our guard, and as soon as energetic specific treatment has been shown to be ineffective,—and this should never be more than six to eight weeks,—a palliative operation should be resorted to. The time has long since passed when it is excusable that palliative decompression is postponed until the patient's eyes are permanently affected by beginning atrophy. With the new test that Cushing and Bordely have discovered, the interlacing of the color fields, such a misfortune should never occur. Surgical interference should be resorted to at the earliest possible moment in the presence of a choked disc, but the decompression—a mere palliative procedure —should be so placed as not to interfere with subsequent surgical intervention, when the time may arrive in a given case, for a radical removal of the tumor.

It may not be out of place to point out again that a decompression operation calls for the free opening of the dura, and though at times the opening of the skull alone may afford transient amelioration of a choked disc, it never does so permanently. The question of operation for a choked disc in specific disease is one about which we also should not hesitate for the choked disc is due to pressure just as in other

neoplasms. It is true that it may be well, now, to try on a patient, besides the usual specific treatment, also Ehrlich's remedy, but if this leads to undue delay disaster is bound to follow.

Throughout my paper I have endeavored to bring before you some of the points which concern the early recognition of brain neoplasms. Therein and in the development of manipulatory methods, such as have been devised for the surgery of the blood vessels, lies the path of progress in the future. I realize that I have given you but a limited survey of the surgical aspect of neurology. I have omitted a consideration of traumatic lesions, birth hemorrhages, congenital defects and pituitary diseases. I trust, however, I have pointed out along what lines the surgeon and physician must work if this subject is to be advanced.

THE BRONCHOSCOPE, ESOPHAGOSCOPE AND GASTROSCOPE IN DIAGNOSIS AND TREATMENT.

BY

PERRY SCHOONMAKER, M. D.,

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As the esophagoscope and gastroscope are larger auxiliary tubes used with the bronchoscope, we shall speak principally of the bronchoscope.

Examination of the upper air passages, the nares, pharynx, and larynx, can be accomplished best by means of reflected light, with the aid of head and laryngeal mirrors. With the use of these and proper manipulation, all parts of the upper air spaces can be examined and the presence of any pathological condition, new growth or foreign body ascertained.

In nervous adults and children, especially the very young, the examination of the larynx with the laryngoscope is very difficult or impossible, and though it may be successfully done with the patient under narcosis, still this method of examination has its limitations. With the laryngoscope we are able to see the arytenoids, vocal cords and (some distance) the upper end of the trachea. When we desire to investigate within the lower trachea and bronchi or esophagus and stomach, our old time methods entirely fail us.

The X-ray gives us valuable aid in locating metallic foreign bodies and dense growths though it fails in some cases. However, in all doubtful cases the X-ray should be used.

To Prof. Gustave Killian of Freiberg, Germany and our own countryman, Dr. Chevalier Jackson of Pittsburg, Pa., we are indebted for the invention of the bronchoscope, which enables us to make direct examination of the bronchi, esophagus and stomach.

After extensive use with these instruments in clinical and private practice in proving their utility, they have given us the results of their investigations, and have pointed out the indications for and methods of their use.

With the bronchoscope we are able to make direct examination within the larynx, trachea and the bronchi to the second and third divisions, and with the esophagoscope and gastroscope, the whole of the esophagus and greater part of the stomach can be seen.

These instruments consist of a series of tubes of different lengths and diameter, attached to a handle, and illuminated by an electric light.

In Prof. Killian's bronchoscope the tubes are in two parts, one tube sliding within the other. This permits lengthening the tube as desired, and lessens the number of tubes required to meet the different cases. These tubes fit a common handle and are illuminated by a strong reflected light moving on the handle, so arranged as to reflect a bright light through the tube to the distal end.

In Dr. Jackson's bronchoscope the tube is in one piece. The tubes are lighted by a small electric bulb at the distal end. It requires a great number of tubes in this instrument to meet the requirements for examining different cases.

As most of you are familiar with these instruments, it is needless for me to give a detailed description of their construction.

The instrument which I have found the most practicable, is the Kahler Leiter modification of the Killian bronchoscope manufactured in Vienna. This instrument has some defects which I have tried to remedy. They are soon to be manufactured by the Wappler Co. of this city.

The uses of the bronchoscope and auxiliary attachments may be divided into three classes:

1. Chiefly in searching for and removal of foreign bodies.
2. For diagnostic purposes.
3. As aids to treatment.

Foreign bodies in the respiratory tract constitute a large and interesting chapter. They occur most frequently in the upper air passages. We are often called upon to treat foreign bodies in the nasal cavities especially in children. As a rule they are buttons, beads, peas, beans, seeds, pebble stones, etc. Recently at my clinic at the Harlem Hospital I removed a small napkin pin from the nose of a child one year old. This had been introduced with the closed end first pushed backward, the pin was open and the point penetrated the tissues on trying to remove it. It was after some effort turned over, and the point grasped with the body of the pin and removed.

Foreign bodies in the nasal cavities in children are generally found in the vestibule, if unskilled attempts for their removal have not been made. The simplest method for their removal is to introduce a thick nasal probe bent at right angles and passed beyond the foreign body, and then drawn from behind forward. An involuntary movement of the patient's head backwards often assists in its removal

A strong pair of angular toothed forceps is the best instrument to use for large impacted bodies. Sometimes considerable force is required for their removal.

Foreign bodies are seldom found in the naso-pharynx but quite frequently in middle and lower pharynx. They are usually found in region of tonsils, base of tongue, and rarely in deep positions. Sometimes pieces of bone, tacks, etc., may lodge in the sinus pyroformis. Some years ago, my sister, a child of four years old, while playing with a carpet tack in her mouth, drew it into the epipharynx where it remained for several weeks, causing few symptoms and finally was ejected during a violent attack of coughing.

More recently I removed a chicken bone, spear shaped, 1½ by 1 inch and ¼ inch in thickness from the throat of an adult woman. These foreign bodies are readily and easily removed with forceps.

Foreign bodies in the larynx, while not so common as in the pharynx, constitute an

interesting group. Rough uneven bodies are usually caught in the tissues, while smooth small objects like needles, fish bones, etc., pass between the vocal cords as a rule and travel further down.

The laryngoscopic method of examination and extraction of foreign bodies in the larynx here has achieved its greatest triumph. It is the most normal method in adults, as long as the foreign body is not wedged in. In the very nervous and in young children the removal through the agency of the laryngoscope is very difficult, yet it may be successful under anesthetics, but it has its limitations; it fails entirely when the foreign body is impacted. In these cases the bronchoscope should be used with the patient under full narcosis with the body in prone condition and the head hanging down. The bronchoscope with the short tipped spatula here should be used. The base of the tongue is drawn forward with the tip of the tube and the larynx cleared of mucus with the aspirator when the foreign body can usually be seen and removed with suitable instruments.

Before the use of the bronchoscope tracheotomy and laryngo fissure were required for their removal; now this is seldom necessary.

Foreign bodies in the trachea.—With foreign bodies in the trachea and bronchi the direct method has the field entirely to itself. The results have been remarkably successful. Killian, Jackson, Ingals, and many others have reported one or more cases of successful removal of foreign bodies from the trachea and bronchi by means of the bronchoscope. The bodies removed consisted of needles, screws, nails, fish bones, beads, cherry pits, collar buttons, a tooth, and various other articles were found. Many cases are not reported, especially in this country, where practitioners have familiarized themselves and are using this method more each year.

In order to reach a foreign body in the trachea or bronchi, it is necessary to introduce a tube of proper calibre and length through the glottis.

The variations in age and size of patients are so great that it becomes necessary to have a great number of different tubes. The Killian bronchoscope with double tubes makes it easy to lengthen the tube as desired. A less number of tubes are required than in the instrument with single tubes. The tube chosen should be just wide enough to pass through the larynx and can be lengthened by sliding the inner tube as far as required. When using the bronchoscope for diagnostic purposes, local anesthesia may be used, but when for removal of foreign bodies, both local and general anesthesia should be employed in order to introduce a tube into the deeper air passages (smaller bronchi). Before attempting to remove the foreign body it is best to spray the location of it with a 4% solution of cocaine with adrenalin. This lessens sensibility and secretions and aids in removing the body.

It is best in performing direct bronchoscopy to have the patient in the recumbent position, so placed that the foreign bodies lie at the highest level and the head at the lowest. This allows the flow of mucus and saliva, so easily excited, to flow from the tube.

Introducing the bronchoscope the head should be bent moderately backward, and increase as far as the occasion demands. The tube spatula introduced through the angle of mouth opposite site of situation of foreign body is known, or better still through vacant space should the teeth be gone.

The end of the tube spatula is passed behind the epiglottis and the arytenoids and vocal cords are sought and the instrument passed between them into the trachea. The deeper portions of the bronchi should then be carefully cocainized and the sliding tube carefully introduced and pushed down first to the bifurcation and then into the affected bronchi. It should be advanced until it reaches the neighborhood of the foreign body. It is usually necessary now to remove the secretion with the suction pump and carefully apply cocaine and adrenalin to these parts to thoroughly anesthetize the mucosa. This prevents coughing and checks secretion of mucus and hemorrhage which are likely to occur. If the foreign body cannot be seen the tube should be withdrawn a little and passed into another bronchi.

An X-ray picture is of great aid in many cases in locating the foreign body.

For removal of foreign bodies and small growths, an instrument has been devised, with forceps handle, an adjustable extending arm, a variety of changeable tips for grasping, biting, spreading, etc.

In extracting bodies no rule can be laid down, each case is a law unto itself. The bodies may be hard or soft, long or round, solid or hollow. The tip selected must be of a class suitable for the removal of that particular foreign body.

Euclid Hall, Broadway and 86th St.

MEDICAL HINTS.

BOILS.—A cure for boils which rarely fails to give prompt relief is one and a half drams of sodium chlorate in four ounces of water, a teaspoonful to be taken every three hours. If a boil is just starting this treatment will usually abort it and prevent any others from appearing.—*Med. Standard.*

THE TREATMENT OF PUERPERAL ECLAMPSIA.[1]

BY

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Eclampsia is always one of the most interesting studies in obstetrics. During the past ten years much that is new has been published, concerning chiefly the pathology of the condition. Inasmuch as prophylaxis and treatment must depend upon our knowledge of the etiology of the disease, we may well consider chiefly this phase of the question. Ewing in a recent paper published in the *American Journal of the Medical Sciences,* May, 1910, states that all efforts to discover a specific poison of eclampsia in the fetus, placenta or blood have failed, and some other conception of the disease must be found. He believes that eclampsia can arise only in an organism long prepared for it, by disturbances of metabolism associated with organic changes in the liver and kidneys, these changes consisting chiefly of congestion, hemorrhage, degeneration and necrosis. He believes that if there is any single distinguishing causative element in eclampsia, it is to be found in the *nephritis* and not in any specific poison from the placenta, fetus or uterus. The urine generally shows evidences of a profound disturbance in nitrogenous metabolism, evidenced by the pres-

[1]Read at a meeting of the Eastern Medical Society, Feb. 10, 1911.

ence of acetone, diacetic acid, beta-oxybutyric acid and large amounts of indican. The nitrogen partition will also in many cases, indicate the same defect in metabolism. During the seizure the ammonia nitrogen increases rapidly and as the patient improves there is a rapid decrease, and Ewing believes that acute ammonia poisoning may be concerned in the symptoms of eclampsia. Ammonia is diffusible, raises blood pressure, is a violent poison to the nervous system, and its effects pass off rapidly. In addition, ammonia causes severe degeneration of organic cells and probably of leucocytes.

In concluding he calls attention to the dangers of chloroform poisoning and states that with the great majority of patients suffering from toxemia, the relief of the acidosis, the hygiene of the intestine, the correction of indicanuria, the careful regulation of the diet with reduction or exclusion of proteids, and the intelligent use of thyroid extract should control the milder cases and reduce the mortality in the severer forms of the disease.

We believe that careful observation and energetic treatment will generally prevent eclampsia, but that we can always prevent convulsions, we do not believe.

The treatment of eclampsia may be divided into (1) the control of the convulsions, (2) the elimination of the poison, and (3) the emptying of the uterus. During the attack, oxygen, if at hand, should be given, and the patient should be prevented from biting her tongue or injuring herself in any way. For many years chloroform has been very extensively given, both during the convulsion and for all subsequent operative treatment. During the past few years, however, many writers have contended that the use of chloroform was very harmful. The most recent contribution to this subject is the paper written by Cragin and Hull and published in the *Journal of the American Medical Association* for January 7, 1911. These authors state that recent studies of the pathological changes produced by eclampsia, delayed chloroform poisoning and chloroform anesthesia have shown a striking similarity in all three conditions. The picture in each is that of congestion, hemorrhage, degeneration and necrosis. The hepatic type of eclampsia will give as symptoms, vomiting, jaundice, tendency to hemorrhage, little oedema and slight albuminuria, whereas the typical renal type will give headache, high tension pulse, marked albuminuria, casts, etc. The work of many authors has shown degeneration and necrosis in the liver and kidneys, after chloroform anesthesia even of short duration. Howland and others were able, almost at will, by continued chloroform anesthesia, to produce delayed chloroform poisoning in dogs, with symptoms and lesions corresponding with those in man. It would seem therefore that chloroform in eclampsia would still further impair these organs already damaged.

In experimental work, six dogs were given ether for several hours on successive days, and at autopsy it was found that ether produced little effect upon the liver and kidneys, as compared to the marked changes in these organs produced by chloroform. At the Sloane Hospital in the last year in 20 cases of eclampsia, ether was given whenever an anesthetic was necessary for delivery and of this number one died. This patient was practically moribund on admission, with jaundice, vomiting, scanty bloody urine and with liver necrosis. In the previous 20 cases

where chloroform had been used, there were 5 deaths, and the mortality in eclampsia in 20,000 deliveries was 28.3%. The use of ether, therefore, seems rational.

For the control of the convulsions, veratrum viride, chloral and morphine have been most widely used. Morphine checks peristalsis, decreases elimination by the intestine, and also seems to prolong the coma following convulsions. Chloral in large doses is very extensively used in the French and German clinics, and there can be no question of the great value of the drug given either alone or with the bromide. Veratrum viride in this country seems to be gaining steadily in favor. The drug is a diaphoretic, diuretic, a powerful arterial and spinal depressant, causing general vasomotor paralysis, and as explained by Wood, the drug bleeds the patient into her own veins. There can be no question that the drug will usually control the convulsions if the pulse can be lowered to about 60. The late Dr. Jewett in a very large experience, never saw convulsions occur with a pulse of 60, but we have, with other observers, in rare instances, seen convulsions occur even with a pulse of 60. My routine is as follows: an initial dose of Mx of the Squibb's Fluid Extract is given by hypodermic, and Mv given every half hour thereafter until the pulse comes down to about 60. The drug is then given in Mv doses every two or three hours, in order to keep the pulse about 60. My experience with the drug has been very satisfactory, and I believe it to be the best for the control of the convulsions. Great caution must naturally be used in giving the drug to patients with a weak pulse, and in the latter class of cases chloral and nitroglycerin would probably be safer. The collapse which occasionally results from large doses of veratrum is promptly relieved by alcohol or mophine and no case of fatal poisoning by veratrum has to my knowledge been recorded. *Elimination* is a most important factor in the treatment of eclampsia and we must consider therefore catharsis, colonic irrigation, diuresis, diaphoresis and venesection.

If the patient is unconscious, catharsis is best produced by the use of croton oil Mi-ii given with olive oil 3½, and placed on the back of the tongue when the patient is very weak, it should be omitted. Elaterium in doses of gr. ⅛-¼ has also been advised, and may be used where croton oil fails. If the patient can swallow, repeated doses of the sulphate of magnesia in concentrated solution may be given, but some writers prefer to give calomel gr. v with compound jalap powder 3½-i. If the bowels do not move, high enemata containing mag. sulph. ℥i with castor oil ℥ii are given. Colon irrigation should be used about every six hours, three to four gallons of normal salt solution being used at each treatment. After irrigation, it is well to leave several pints of hot saline in the bowel to promote diuresis and diaphoresis.

Diuresis and diaphoresis are both brought about by the preceding plans of treatment, but nitroglycerin is often useful for this purpose. Hot packs and hot air baths are very valuable aids in treatment, but one must watch the pulse carefully, as marked depression occasionally follows the use especially of the hot pack.

Venesection in cases where the pulse is strong and full with high tension, is of distinct value. If delivery is imminent the patient may be allowed to bleed in the placental stage of labor, or immediately after the completion of the third stage.

Before considering the surgical treatment of the condition I would like to refer to the relation of the thyroid gland to pregnancy, and to treatment of the toxemia of pregnancy by the administration of thyroid extract. Ward, in a most interesting monograph published in *Surgery, Gynecology and Obstetrics* for December, 1909, considered the subject with great care, and I would refer those especially interested to the monograph for full details. Ward's conclusions were as follows:

1. The thyroid gland is in all probability concerned in promoting nitrogenous metabolism.

2. There is considerable evidence that the thyroid gland normally hypertrophies during pregnancy, and plays an important part in the increased nitrogenous metabolic processes incident to that state.

3. Failure of the thyroid gland to hypertrophy during pregnancy is probably followed by insufficient metabolism and may result in the various forms of toxemia of pregnancy.

4. It is very probable that the toxemia of pregnancy is largely dependent upon faulty metabolism, at least an insufficient metabolism is an accompaniment which greatly adds to the seriousness of the condition.

5. Graves' disease, by materially altering the quantity and quality of the thyroid secretion, has an important influence upon metabolic processes, and therefore, if associated with pregnancy, owing to the increased metabolism incident to that state, it becomes a grave complication.

6. When there is a failure of the normal hypertrophy of the thyroid gland during pregnancy, and when there is a diseased thyroid, as in Graves' disease, the administration of thyroid substance, by supplying the deficiency of the normal thyroid secretion and by diuretic action, may materially improve a faulty metabolism and thus have a favorable influence upon the manifestations of the toxemia of pregnancy.

7. The use of a saline extract of thyroid proteids made from fresh normal human glands is much more efficient in rapidity and reliability of action than the sheep thyroids as ordinarily prepared, and therefore much more satisfactory results may be expected from its use.

8. The hypodermic administration of thyroid proteids is greatly superior to oral administration, especially when used in cases of toxic vomiting of pregnancy, or in eclampsia.

9. As the whole subject is yet so very obscure, much further research work will be necessary, but in view of results already obtained, the field is a most promising one. It is also not improbable that further research may show that the parathyroids too, have an important relation to the manifestations of the toxemia of pregnancy.

Surgical Treatment.

We believe that in eclampsia the uterus should be evacuated as soon as possible, consistent with the integrity of the soft parts. The interruption of pregnancy offers the patient the very best chance of recovery. Naturally a very great difference of opinion arises as to the proper method of procedure in these cases, for nearly every operation known in obstetric science has been advocated. We believe that the choice of method should depend upon the degree of softening and dilation of the cervix, the size of the pelvis, the parity and environment of the patient, and last but not least, the surgical skill of the obstetrician. For general use, however, in private practice and as a rule in the hospital, we advise the following treatment:

If the patient is in the second stage of labor, the child should be extracted by forceps or version. If the patient is still in the first stage of labor, the treatment will depend upon the amount of dilation and the character of the cervix. If the cervix is very soft and easily dilatable, manual dilation should be used, followed by forceps or version. If the cervix is still rigid, and dilation slight, we advise the introduction

of the modified Champetier de Ribes bag. The bag will soften and dilate the cervix, and later manual dilation can prepare the way for operative delivery.

Should eclampsia appear before labor has begun, we advise the induction of labor by means of the water bag. These bags are invaluable for the induction of labor, and also for accelerating dilation in tedious labors. One of the smaller bags is first introduced, and after expulsion, a larger size is inserted. The softening and dilation prepare the cervix for subsequent complete dilation and operative delivery. The bougie may also be used for the induction of labor, but in our experience the bags have proven more reliable, and we use them for induction of labor generally, to the exclusion of other methods. If it should be found impossible to dilate the cervix, vaginal Cesarean section would, in the presence of a long rigid cervix be probably the quickest, safest and best operation. It seems to me that the field for vaginal Cesarean section is limited to these cases of eclampsia where the cervix is long and rigid, or cannot be dilated.

In the hospital, in the hands of expert surgeons it is possible that vaginal section will prove to be the best method of procedure in all cases of eclampsia occurring from about the sixth to the eighth months of pregnancy when the cervix, especially in the primipara may be long and rigid. Within an hour at most, the uterus is emptied, the incision sutured and the patient put to bed. The operation however is not to be considered at the present time as a proper procedure under ordinary circumstances. If the cervix has been partly effaced, and the rigid partially dilated lower zone is spread out in advance of the presenting part, Dührssen's incisions should be used. Abdominal Cesarean section should be used only in those cases where some disproportion exists between the fetus and the pelvis, a disproportion which would call for section in any event. In conclusion, we may state that there are many factors to be considered in the treatment of eclampsia, and we have endeavored to emphasize the means at our command which we believe to be the safest and best.

THE INDICATIONS FOR ABDOMINAL CAESAREAN SECTION, WITH REMARKS ON THE TECHNIQUE OF THE OPERATION.[1]

BY

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With modern operative technique, and a better understanding of the indications for its employment, the field of abdominal Caesarean section has gradually broadened, until at the present time there are a number of other conditions, beside badly deformed pelves, in which the operation may be considered to be indicated. By the term abdominal Caesarean section, it is understood that we mean the classic operation, with certain modifications, and that we do not include the so-called "extraperitoneal" or "suprasymphyseal" section.

Caesarean section was formerly considered an operation to be done where, when all other attempts at delivery had failed, the child still survived, and with the woman exhausted from a prolonged labor, undoubtedly infected from numerous examinations and manipulations, all conducted in a more or less uncleanly manner, it is

[1]Read at a meeting of the Eastern Medical Society, Feb. 10, 1911.

not remarkable that the results both in mortality as well as in morbidity were unsatisfactory in the highest degree.

With our present knowledge of asepsis, however, our greater experience with the operation, and with the improved ability which the physician does or should possess, of making careful and complete antepartum examinations of his pregnant patients, thus informing himself and them of any abnormal features which exist in the individual case, with this knowledge and ability, the scope of abdominal Caesarean section has tremendously enlarged and its use results in a much larger number of living, healthy children, and an even greater number of uninjured mothers.

Broadly speaking, Caesarean section by the abdominal route is indicated in all cases where there is a degree of obstruction to delivery either on the part of the mother or the child, sufficient to render such delivery by the natural passages impossible, with best results to both, it being understood that the child is viable and that the condition of the mother is such that she will survive the operation.

These indications may be classified as follows:

1. Deformed pelvis.
2. Placenta previa.
3. Eclampsia occurring in a patient with a firm, undilated cervix, and complicated or not with the two previous causes mentioned.
4. Neoplasms of the uterus, such as fibroids, carcinoma, etc.
5. Vaginal deformities, such as marked contractions from scars, tumors, etc.
6. An excessively large child.

Taking these up in order, by the term "deformed pelvis," we mean any pelvis which is so contracted as to render impossible the passages of a normal living child. We include here, flat, justominor, rhachitic, Naegele, Roberts or osteomalacic pelves, the important feature for the obstetrician to realize being, that in a given individual pelvis the particular fetus will not come through alive, or without extreme injury to either mother or child or both. Here is where careful and painstaking examinations of the patient during the later months of pregnancy count for more than in almost any other condition, as it enables the surgeon to judge not only the size of the pelvis, but also the size of the child, thus forming an estimate of the ratio which the two bear to each other, determining whether or not he shall expect an operative outcome to his case, and in such an event allowing him to prepare for it in time to secure a successful issue.

Regarding the utility of this operation in placenta previa, it is my belief, as already expressed several times in print and in public, that in certain cases of placenta previa, especially those with a central implantation, in the presence of a firm undilated os, where the soft parts are tight and unyielding, less damage will be done to the mother and we shall be more certain of securing a living child by Caesarean section than by the commoner means of delivery in vogue.

The maternal mortality of placenta previa in hospital practice is estimated by various writers to range from 11 to 18 per cent. while the fetal mortality is given from 40 to 57.3 per cent. Contrast with this a maternal mortality of between 3 and 4 per cent., the result where Caesarean section has been performed for this condition. This also takes no account of the maternal morbidity, which in the average Caesarean section is practically nothing, the patients

losing little blood and making a rapid recovery, while in the usual obstetric procedures in placenta previa, not infrequently severe hemorrhage and lacerations are almost unavoidable.

Considering eclampsia, the operation is at times of the greatest service, and certainly offers no more, if indeed as much shock to the patient as does a difficult manual dilatation followed by the attendant version or forceps (all of the author's cases on which Caesarean section has been performed have recovered, and have shown very little shock from the operation).

Concerning the other reasons given for performing Caesarean section, time will permit of no more than a passing mention, but we must agree that when neoplasms obstruct the birth canal, when scars have contracted the vagina to a point where the passage of a child cannot but cause grave destruction to the mother's tissues or when the size of the child is out of all proportion to the size of the maternal pelvis, we must, I repeat, agree that an elective Caesarean section, done under favorable surroundings such as our modern hospitals afford, is the operation of choice.

Bearing these indications in mind, let us next consider the time of operation, which is a matter of utmost importance; in cases where we can be absolutely certain of our dates, and this is not always an easy matter, the patient may be operated on, at a given time, before labor has actually begun. It is, however, my custom to allow the woman to wait until the actual onset of labor, in most cases, operating within an hour or two of this time. By this means we secure a slight dilatation of the os, thereby facilitating drainage, and in cases of moderate disproportion we have an opportunity of seeing whether or not the presenting part will attempt to engage. We are all perfectly aware of the fact that the morbidity, as well as the mortality, both maternal and fetal, in this operation, varies directly as to the length of time that the mother has been in labor and the number of vaginal examinations which have been made; although if these latter have been conducted in a thoroughly aseptic manner, it should not make a great deal of difference. This being so, we must admit that it is undesirable to perform a Caesarean section on a woman who has been long in labor, whose membranes are ruptured, and who has had numerous vaginal examinations. Hebosteotomy may here serve a purpose, in a certain number of cases, but its field of usefulness is limited to those patients where the degree of contraction of the pelvis is not too great, and is directly contraindicated in pelves whose true conjugate is 7.5 cm. or less. Where the child is viable, and the patient's pelvis is very small, too small for an hebosteotomy, even though the woman be exhausted from a long labor, we must make our choice of a Caesarean section, or a craniotomy on the living child. Such cases are fortunately growing less common, since they are earlier recognized and treated, but when they do occur as in other surgical conditions the discriminating judgment of the operator, based on a knowledge obtainable only by experience, must determine what form of operative interference shall take place in the individual woman.

Concerning the actual technique of the operation, a few words here may not be out of place.

Quoting from an article on this subject read by me in the Section on Obstetrics and Diseases of Women of the American Medical Association in June, 1908, "after the usual aseptic and antiseptic preparation of the patient as for any laparotomy the

abdominal cavity is opened by a median incision 12 cm. in length, extending from above, downward to the umbilicus. The fundus of the uterus is found directly under this wound. If dextrotorsion, which is frequently present, occurs, the uterus is manually adjusted so that the anterior uterine wall faces forward. The abdominal cavity is then walled off by means of three or four moist gauze pads, wet in salt solution. This leaves only a small area of the uterus exposed to view, it being understood that the uterus is not delivered from the abdominal cavity, and that no attempt whatever is made to control hemorrhage, either by ligature or pressure, since this has been found to be unnecessary. An assistant now places a hand at either side of the abdominal wall, near the wound and well backward, so regulating his pressure that the uterus remains in place during the process of being emptied, and afterward until the deep sutures are tied. A median incision in the uterus, which begins well up at the fundus and extends downward so that it is a little longer than the abdominal incision, is made. This incision should be made carefully so that the amniotic cavity is not opened. Should the placenta be found situated directly under the wound, it is better to cut or tear directly through it. If, however, the membranes present, it has been found advisable to sweep the hand quickly between them and the inner surface of the uterus, in order to prevent adhering of the membranes to the uterine wall. The lower extremity of the child, which is most readily found, is grasped and practically a breech extraction is done, the aftercoming head being delivered by a modified Smellie-Veit maneuver. The cord is clamped and cut by an assistant, and the child is carried from the room, in order to avoid confusion while establishing respiration. A double tenaculum is now placed on either edge of the uterine wound at its upper angle, to prevent the uterus from slipping down into the wound, the uterus is emptied of any clots which may have formed, also of the placenta, and with as little delay as possible the deep interrupted sutures of heavy chromic catgut are placed; each suture is inserted about one centimeter distant from the edge of the uterine wound, carried down to the endometrium, and passed through the opposite side in reverse order. After these sutures are placed, being tied as they are put in, a continuous suture of fine catgut is used to bury the first row of sutures, and brings the peritoneum into apposition. The sponges are now removed, and the abdomen closed in layers in the usual manner. The Porro operation is practically never performed. A dry dressing is applied, which is not disturbed until the eighth day, when the sutures are removed. The patients are in most cases allowed to sit up at any time after the tenth day, and always before the fourteenth day, depending on the involution of the uterus and the condition of the wound."

The advantages of the short, high incision above described are, first and most important, that at the close of the operation, the uterus is involuted well below the lower end of the abdominal wound, thus precluding the formation of adhesions between the abdominal scar and the uterine scar, a very desirable feature; second, the lessened tendency to hernia in a scar situated at this point in the abdominal wall, especially during future pregnancies; third, the small scar in the abdominal wall, being at time of patient's discharge, rarely more than 6-8 cm. in length.

These, gentlemen, are a few of the more salient points in regard to indications and technique of the operation of abdominal Caesarean section, and in closing I should like to sum up what I consider the more important conclusions to be drawn from what I have told you.

1. Abdominal Caesarean section is the operation of choice when the obstruction to delivery is such that a viable fetus cannot be removed by the normal passages and the mother's condition offers a fair chance for her recovery.

2. This obstruction need not of necessity be a deformity of the bony pelvis, but may be caused in several other ways, as indicated above.

3. While elective Caesarean section just before labor or at the very beginning is desirable, the fact that the patient has been

for some time in labor, does not in itself, preclude the possibility of doing the operation.

4. The operation requires a particular technique, with skilled assistants, to get the best results, which makes it undesirable to undertake it unless the conditions are satisfactory.

5. These special points in technique are
a. The high incision.
b. The non-delivery of the uterus from the abdominal cavity.
c. The absence of any method of constriction to prevent bleeding.
d. The method of suture described.

6. Where the conditions here described exist, patients should show a maternal mortality of not more than 3 per cent. of the cases, and a still birth percentage of almost nothing.

THE TREATMENT OF ABORTION.[1]

BY

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Abortion, as we see it, falls under two main divisions; therapeutic, where the operation is done for proper reason, and criminal, where we are called on to save the individual from the consequences of the illegal interference with the contents of the pregnant uterus.

In therapeutic abortion, to the end of the second month, an aseptic curettage is efficient and sufficient. Disinfect the vagina with iodine, dilate carefully with the steel dilator. Use a moderately sharp irrigating curette, through which is running a stream of warm, sterile, normal salt solution. Be gentle but thorough.

In the third month or later it is very necessary to secure more efficient dilatation than we can safely get by the use of the steel dilator. Clean the vagina and disinfect with iodine. Use the Hanks graduated sounds to secure space for packing. Pack the uterus with a narrow strip of sterile gauze, carrying the gauze well up into the uterus, and allow it to remain for eighteen hours. At the end of this time the uterus may empty itself without interference, if it does not we should have sufficient dilatation to allow the introduction of the gloved finger. The finger in conjunction with the curette can usually clear out the ovum without the danger of perforation or other injury. Any pattern of so-called "ovum forceps" is to be avoided, as very serious damage may be done by the use of any instrument having a harsh bite. On the other hand, a small ring, or sponge forceps, used with care and gentleness may be of great use. When the uterus is clean and empty leave it alone.

Rarely, in an emergency where it becomes necessary to empty the uterus so quickly that there is not time to secure the needed dilatation by packing, an anterior vaginal hysterotomy may be indicated; that is a division of the anterior wall of the uterus in the middle line after pushing up the bladder.

In the cases of criminal abortion the dangers are sepsis, hemorrhage, and perforation with possible serious or fatal injury to various abdominal structures, and following the sepsis inflammation of the appendages with sterility and invalidism. We all of us know only too many women who have been rendered chronic invalids as the final result of criminal abortions. Most of these abortions are induced in the third month, some foreign body having been introduced into the uterus. When a woman comes to you having a slightly enlarged uterus, a chocolate colored vaginal discharge, and a slight rise of temperature it is safe to conclude, even in the absence

[1]Part of a symposium before the Eastern Medical Society, Feb. 10, 1911.

of a definite history of a probable abortion or of some interference with the interior of the uterus, that we have an infected mass of dead material inside the uterus. The indication is then imperative to clean out the uterus with the least possible amount of trauma. The prime necessities are asepsis, gentleness, and patience. Remember that you are working inside of an organ with flaccid walls which are apt to be very friable and soft and where very little force wrongly applied may cause perforation. In cases where the pregnancy has not gone beyond two and a half months the curette and sponge forceps may be used where the finger cannot be introduced. In later cases it is imperative that there be dilatation enough to introduce the finger or fingers, and to secure this it may be necessary to pack with gauze and wait. In general it may be said that the curette is safe in proper hands during the first two or two and a half months and that after that time the dangers attending its use increase so rapidly that its employment is rarely to be justified. When the uterus is clean and empty it usually contracts and bleeding ceases. Packing after the uterus is emptied is very seldom indicated. Where there is much relaxation contraction may be secured by irrigation with hot, sterile, normal salt solution, or, in the presence of infection, after the return of the salt solution has shown positively that there is no perforation, a hot watery solution of iodine causes vigorous contraction and is an efficient disinfectant. Of course it is understood that if we have a uterine cavity thoroughly infected no local agent is going to disinfect it absolutely. All that we can do is to remove all dead material and leave it clean. When once clean let it alone.

In cases where there is reason to fear serious injury has been done to the uterus or to the abdominal contents, unless the patient's environment is of the very best, it is wise to send the woman to a hospital where she can secure the most skilled attention.

To avoid even the appearance of wrongdoing, remember that a therapeutic abortion should never be done without proper consultation and support. If called to a case where it is evident that a criminal operation has been performed, protect yourself by association with another physician or physicians and by a signed statement from the patient, so that if an operation is necessary you will have competent witnesses to the conditions found. Should the woman be in danger of death do not forget that the law requires you to notify the authorities.

SOME REMARKS ON THE TREATMENT OF ATROPHIC RHINITIS.[1]

BY

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Before considering in detail the methods I have been employing in my clinical work, it would seem desirable to give a hasty resume of the views held by different rhinologists concerning the etiology, pathology and treatment of this disease.

(1) Under the heading of chronic rhinitis, Clinton Wagner infers that the atrophic form is simply a condition resulting from, or an advanced stage of the

[1]Read at meeting of the Clinical Society of New York Throat, Nose and Lung Hospital, March 6, 1911.

hypertrophic form that has failed to respond to treatment.

(2) Seiler states that atrophic nasal catarrh may follow the hypertrophic condition, or may be atrophic from the beginning. He refers to the coexistence of both forms in the same patient, and with truth, as we ofttimes find turbinal hypertrophy in one naris, and atrophic conditions in the other: furthermore he believes that atrophic rhinitis is caused by the same conditions that produce hypertrophy and takes exception to syphilis, scrofula, or other specific causes as having any direct influence upon this condition.

In the treatment of this disease, Seiler insists upon persistent and thorough cleanliness of the parts affected, and employs silver nitrate in various strengths with starch as a dusting powder; he also calls attention to the patient's general health, the local application of a moderately strong current of induced electricity and suggests that where persistent odor remains after thorough treatment as above outlined, the antrum, frontal and sphenoidal sinuses should receive attention for existing diseased conditions.

(3) John N. Mackenzie classifies the stages of chronic nasal inflammation as follows:

I. Simple inflammatory (rhinitis simplex) divisible into periods of:

(a) Irritability of erectile tissue.

(b) Permanent dilatation of erectile tissue.

II. Hypertrophic (rhinitis hypertrophica) divisible into periods of:

(a) Dilation with hypertrophy.

(b) Complete hypertrophy.

III. Atrophic (rhinitis cirrhotica) divisible into periods of:

(a) Commencing atrophy.

(b) Complete atrophy.

In our present discussion we will only concern ourselves with the presentation of Mackenzie's views upon *rhinitis atrophica*. He states that atrophic rhinitis always appears as a sequel of a preexisting catarrhal inflammation and supports his contention by a number of clinical and pathological facts. If the clinical history be accurately taken, it will point to a preexisting catarrhal process. Is rhinitis ever *ab initio* atrophic? In the absence of direct histological proof of such occurrence, in consideration of the rapidity with which in some cases the hypertrophic variety passes into the atrophic, in view of the many obvious difficulties in the way of certain historical data in its favor, and in the light of anatomical investigation I think that, for the present at least, the question must be answered in the negative.

When the nasal cavities are exposed, they are found filled with a dirty, discolored, foul-smelling mucus and crusts. Upon removing these, the atrophic mucous membrane is seen to be of a pale ashy-gray or dirty-brownish color, its surface either smooth or glazed or thrown into folds, giving it more the appearance of a serous than of a mucous membrane (Zuckerkandl). Dense in consistency, it can sometimes be stripped with ease from the underlying periosteum. Associated with the thinning of the mucous membrane is always more or less corresponding atrophy of the bony framework and especially of the inferior and middle turbinated bones.

Zuckerkandl, who has studied the different phases of the turbinated bones in morbid conditions, finds that in the milder grades of atrophy, there is simply thinning

with loss of continuity and occasionally perforation of the bone. Later on the free convex edge of the bone becomes straight or even concave and as the process goes on, it is reduced to a mere ridge along the wall of the nostril. These changes are more pronounced in the respiratory region, but not infrequently invade the olfactory area. The changes in the periosteum and bony framework consist essentially in the gradual atrophy of the lacunae. The walls of the lacunae are gnawed away in an irregular manner, their lumen is filled with osteoblasts, containing a varying number of nuclei, and in some places the space between the individual canals is so narrowed, that nothing but a thin remnant of bone is to be seen (Krause). Division of the nuclei of the bone-corpuscles has been also observed (rarefying osteitis).

In the treatment of rhinitis atrophica, Mackenzie mentions the thorough use of alkaline sprays, and weak solutions of mercury bichloride, alcohol and applications of an Indian remedy, Galanga—as recommended by Bosworth.

(4) Bosworth disagrees with the view that the atrophic is but a later stage of the hypertrophic catarrhal condition, but rather, "commencing as a desquamative inflammation of the nasal mucous membrane, there is set up a disease under the name of purulent rhinitis which constitutes the early stage of the disease." We may describe atrophic rhinitis, according to Bosworth, "as that form of catarrhal inflammation of the mucous membrane, which developing in the direction of a glandular atrophy, leads eventually to more or less destruction of the muciparous glands and follicles, together with a true cirrhotic condition of the mucosa proper, resulting in a condition of the nasal mucous lining, in which the prominent and characteristic symptom consists in the formation of crusts and scabs, which lodging in the sinuous passages of the nose, undergo decomposition, and become the source of a fetid and offensive odor."

He treats this condition with thorough nasal cleansing and mentions Gottstein's use of cotton tampons, also the employment of the galvanic current, and various powders, such as galanga, belladona, and salicylic acid in the form of insufflations.

(5) Jonathan Wright, from his studies states that there are plausible reasons for considering that the essential reason and the primary one in this disease is a bone lesion, which in some manner interferes with the radical vessels lying in the bony canals, or are in some way compressed against bony plates.

(6) Vaquier gives six cases of ozena in one family, and upon this basis argues for the contagious character of atrophic rhinitis.

(7) W. Freudenthal gives dryness of the house atmosphere in which we live as in a large manner responsible for these conditions. The dryness conduces to atrophy of the nares and the invasion of Abel's bacillus develops the foul odor of ozena. Accessory sinus disease, he believes a secondary condition to this disease and not the primal cause, as asserted by Gottstein.

(8) Hajek believes that sinus suppuration, especially the posterior accessory sinuses, may be the cause of atrophic ozena in a large number of cases, the anterior and posterior ethmoidal cells, the maxillary sinus, and adenoids, are more frequently associated with it than frontal sinusitis. He advocates massage being given a thorough trial.

In the writer's observations of atrophic rhinitis in children, where the sinuses are but little developed, he certainly could not place the onus of naso-pharyngeal atrophic conditions upon sinus disease as the causative factor.

(9) J. Sendziak gives statistics and believes in the mutual relation between tuberculosis and atrophic rhinitis, and considers that the latter predisposes to the former.

(10) G. L. Richards states that the etiology and treatment of this disease are still in an uncertain condition. He has never found disease of the adnexa as a cause, but rather as a complication, and leans toward Cozzolini's theory that the disease begins in the bone, the process starting as an atrophy of the medullary blood vessels and of the arterial capillaries of the periosteum, becoming a periostitis or a rarefying osteitis.

Among the many forms of treatment mentioned, Richards lays great stress upon thorough cleansing of the parts and faithful cooperation of the patient with the physician.

(11) Broekaert mentions success with the submucous injection of paraffin.

(12) G. F. Keiper thoroughly cleanses the parts of mucus and crusts, then swabs with a 25% solution of cocaine, if bleeding results applies adrenalin solution and a few minutes later he dries the nose as well as possible, and with a cotton tipped applicator wet with a 12% solution of silver nitrate rubs and vibrates the nares by hand; he then sprays with a 3% camphomenthol in oil. The silver nitrate solution is gradually increased to 30%. From results obtained with dionin (ethyl morphin) instilled in mucous membranes of the eyes, Stiel (13) paints the nasal mucous membranes with a 5% to 10% solution of dionin.

(14) D. Braden Kyle does not agree with Lowenberg and Frankel, Abel, Hajek and other observers who describe special bacteria present in atrophic rhinitis; they in some way may be associated with ozena, but not as specific etiologic factors. He has found Frankel's pneumococcus, Klebs-Loeffler bacillus, bacillus foetidus, and many varieties of streptococci and staphylococci present, and therefore considers them rather merely coincidental than of any pathological importance. Kyle very thoroughly discusses this disease in his book and therefore the writer will only briefly abstract therefrom. Of complications he mentions the implication of the eustachian tubes and states that if the accessory cavities are not primarily involved, they may become so as a complication. He therefore does not commit himself to the fact that accessory sinus disease is the real causal factor of atrophic rhinitis, and leads us to infer that he believes that it may or may not be the cause that the sinuses may or may not be involved when atrophic rhinitis is observed in all cases. He also states that he has observed reflex and nervous complications—as neuralgia, giddiness and paresthesia—in some of his cases of atrophic rhinitis.

Under the heading of treatment Kyle also lays great stress upon thorough cleansing of the nares and mentions the use of carbon oil, iodine in different strengths, 3% chlorid of zinc and 1-2000 trichloracetic acid solutions, also a weak solution of formaldehyde with glycerin as a good cleansing agent. He also emphasizes the fact that the best results can only be anticipated when the physician personally attends to the cleansing of the nares.

Internally Kyle advocates the use of iodid of sodium and potassium, plenty of outdoor exercise, and in general, that all of the organs be kept in the best possible condition.

The writer has only skimmed the surface of the mass of the reports upon atrophic rhinitis that he has found in the literature of the past twenty-five years, so it can readily be appreciated how much this paper had to be curtailed and how much of interest necessarily had to be omitted to present this subject within the space available.

In the past, working in a busy clinic, I have employed nearly every well-tried remedy that has been advocated in the treatment of this troublesome disease.

In a great number of cases when accessory sinus disease, ethmoiditis especially, was found as the presumable cause, or the complicating factor of atrophic rhinitis, no satisfactory results would ensue from the most persistent and thorough cleansing and application of any of the most serviceable therapeutic measures, until the sinuses involved were treated in a thorough surgical manner.

After consistently employing all the known therapeutic measures for many years, I at last pinned my faith upon ichthyol, in different strengths and also at length using it in its full strength without admixture.

I was greatly surprised to find that with thorough nasal cleansing and the application of pure ichthyol, especially where I had the cooperation of the patient, the results for a time at least, were better than I had ever before witnessed.

As we know only too well, the treatment of this disease, especially in an advanced stage, is of protracted duration and often of slow progress. The patients at length complained of the penetrating, persistent odor of ichthyol which was so perceptible to all who came within any approach of them. So I was reluctantly compelled to withdraw this preparation, and seek some other of equal or greater efficacy without its numerous disadvantages. I at length, in 1906, began the use of what was to me at least, a new synthetic preparation—sodium oleo-sulphonate (thigenol).

Upon investigation I found that this preparation was being employed more or less extensively in the fields of gynecology and dermatology, in fact in all of the conditions in which ichthyol had been formerly used, with but few instances, however, especially in America, in rhinology.

So in 1906 I began its use in the treatment of atrophic rhinitis.

Before detailing some of my own cases, I will give a brief abstract from the paper of (15) L. Swerschewski, of Moscow University, on the use of sodium oleosulphonate (thigenol) in oto-rhinology. He describes this drug as a concentrated solution of the sodium compound of a sulphic acid and containing 2.8 per cent of organically combined sulphur. It occurs as an oily viscid liquid, brown in color and possessing a slight odor similar to that characteristic of ichthyol and a faint peculiar by-taste. It is soluble in water, diluted alcohol and glycerin, and mixes well with fats. Pharmacologically, it acts as as antiphlogistic and resolvent; moreover it possesses a decided antiseptic and antiparasitic property. It excels ichthyol in being almost completely odorless, and has been used in all cases where formerly ichthyol was employed with apparently equal success.

Swerschewski cites favorable results in skin diseases obtained by Silberstein, Saalfield, Levi-Bianchini and Honigsmied, also results reported by Neuman and Falk in their gynecological practice.

Swerschewski employed thigenol in 5-10 and 20% ointments in atrophic nasal disease, and states that he noted good results from the beginning and that he was further induced to continue to use it by a paper read by Urbantschitsch before the Vienna Otological Society, Nov. 23, 1903, and another by the same author that followed it. Urbantschitsch showed, according to Swerschewski, that he had obtained favorable results in his otological practice with thigenol.

Swerschewski then cites his results in twenty cases, nine of nasal disease and eleven with disease of the ear, especially such cases that had been previously treated with other remedies and he sums up his results as follows:

1. Sodium oleo-sulphonate applied in a 10 to 20% ointment is useful in atrophic processes occurring in the nose, it dispels the painful and other abnormal sensations and diminishes the pathologic secretion.

2. In purulent processes of the ear without affection of the bones, it diminishes the secretion, effects a recession of the granulations and lessens the pains.

The writer will now briefly refer to a few of his cases of atrophic rhinitis in which thigenol has been used. In all of these cases thorough cleanliness of the anterior and posterior nares, before the application of thigenol, has been insisted upon by the writer in his work and the patients so directed in their treatment at home.

Wherever sinus involvement has been found, surgical intervention has been directed to remove such conditions as thoroughly as possible, attention also has been given to any systemic complication. I have found this sodium oleo-sulphonate without any admixture the best mode of application for the physician's use, but for home treatment a 10 to 25% ointment to be applied twice daily, after thorough cleansing of the nares with an alkaline solution, the best method to be followed by the patient. I have divided my cases into two general classes, viz.: those that have no discernible tubercular condition—and those that are in different stages of pulmonary tuberculosis. Of the first class there are nineteen cases, of those with tubercular lesions there are eight.

A goodly number of these cases are still under observation, some are seen regularly two or three times weekly; those who have made the greatest progress to an arrested condition are seen once or twice monthly.

I will now briefly detail seven of the first class with results obtained as before outlined:

CASE I. Mrs. A. E. Italian, age 26, history of crusts and odor in evidence for at least eight months before presenting herself for examination. Examination of nares shows atrophy of turbinal mucosa; thickened septum deflected to right nares, dry, glazy posterior pharyngeal wall.

Within a short time by cleansing and applications of sodium oleo-sulphonate improvement in condition was observed and within two months, crusts and accompanying odor disappeared. Patient still under observation (as an arrested case) and seen at protracted periods.

CASE II.—C. F., age 56, history: crusts obstructing nose for some years—accompanied by odor. Examination reveals, after removing crusts, atrophy of inferior turbinal mucosa, enlarged right and left middle turbinals obstructing naso-frontal drainage—caries of anterior ethmoid cells. Anterior portions of both middle turbinals

were removed with curettage of caries ethmoid cells—after treatment cleansing with alkaline solution and applications of thigenol. Result—disappearance of crusts and odor, patient now returns for treatment once a month.

CASE III.—Mrs. D. H. specific history: examination shows nares covered with foul smelling crusts. After thoroughly cleansing atrophic turbinated bones were seen—also perforation of hard palate. Improvement from ante-syphilitic treatment, cleansing and applications of thigenol. The systemic treatment of this case is, of course, the principal factor in the improvement obtained.

CASE IV.—Mrs. W. A., age 27, (as occurs in many cases so in this—at times it is impossible to obtain any reliable history). Examination reveals complete atrophy of right inferior turbinated bone and beginning atrophy of left turbinal mucosa with fibrous bands. Within two months of steady treatment along these prescribed lines the turbinal mucosa shows improvement in color and sufficient enlargement to plainly exhibit fitting on pressure with probe.

CASE V.—Miss T. C., age 20. Examination shows atrophy of mucosa of inferior turbinals—cystic middle turbinals, septum deflected to right naris, pharynx dry and glazy. Some improvement under treatment. but patient irregular in visits. Requires operative interference for removal of middle turbinals, so we cannot list this case as a satisfactory result, as treatment has not been thoroughly tried.

CASE VI.—Mrs. A. C., age 41. Examination shows some crusts in nares, with beginning atrophy of turbinal mucosa. After second treatment some improvement in condition was evident, as crusts on mucosa lessened in quantity. Improvement still continues.

CASE VII.—A. L., age 19. Atrophy of mucosa of turbinals and pharynx. Similar result as in case VI with same treatment.

In the treatment of the second class of cases, the tuberculous cases with atrophic rhinitis, Dr. F. W. Law, chief of clinic in the Electro-therapeutic Department of the New York Throat, Nose and Lung Hospital, where all of these cases were treated, kindly followed my suggestion to apply the oudin current (fourteen inch coil used) employing a nasal glass vacuum electrode for about three minutes duration in the nares, directly after I had completed the above outlined treatment in my clinic.

I must, however, confess that beyond the tonic effect of the current, I did not note any radical difference in the results obtained than with sodium oleo-sulphonate without any application of the current.

Perhaps the ionization anticipated from the current might be obtained by employing a stronger current and applied for a longer period of time than heretofore used.

I will now briefly give the results obtained with the eight cases in which there were coexisting tuberculous lesions:

CASE I.—Mrs. S. D., advanced pulmonary tuberculosis, atrophy mucosa of nares and pharynx, poorly nourished patient. Even under these adverse systemic conditions, some improvement, though slow, has been observed.

CASE II.—Mrs. K. M., age 46. Second stage pulmonary tuberculosis. Atrophy nasal and pharyngeal mucosa, septum thickened and septal spur left naris. Some improvement noted.

CASE III.—Mrs. K. K., age 63. Complete atrophy turbinal bones, crusts with odor, second stage pulmonary tuberculosis. Noticeable improvement under treatment.

CASE IV.—Mrs. J. M., age 30. Second stage pulmonary tuberculosis, mucosa nose and pharynx in atrophic condition. Well marked improvement in local and also general condition, the latter factor undoubtedly playing a prominent part in the local improvement.

CASE V.—Mrs. W. B., age 20. Atrophic naso-pharyngitis, second stage pulmonary tuberculosis. Improvement under treatment is only slight as patient is somewhat irregular in attendance.

CASE VI.—Mrs. S. S., age 35. Second stage pulmonary tuberculosis. Atrophy nasal and pharyngeal mucosa. Shows continued improvement.

CASE VII.—Mrs. B. C., age 40. First stage pulmonary tuberculosis, atrophy right and left inferior turbinal bodies, polypoid left middle turbinated bone. Treatment—removal anterior portion of left middle turbinal, ethmoid cells cu-

retted and applications of thigenol followed by improvement.

CASE VIII.—Miss G., age 17. Second stage pulmonary tuberculosis. Atrophic mucosa nares and pharynx, though irregular in attendance improvement in condition noted.

I have purposely refrained from giving a detailed description of the pharyngeal and laryngeal conditions found in the second class of cases, as I have endeavored to make the report upon these patients as brief as possible. However, I cannot refrain from remarking how surprised I was to find so much improvement in the naso-pharyngeal mucosa ensue under this treatment in those having tubercular lesions as these cases have laryngeal and pulmonary involvement to a greater or less extent, are poorly nourished until taken in charge at the clinic, have never had any idea of nasal toilet and have never been taught proper respiratory exercise.

As will be noted the treatment has been mainly medical despite adverse systemic conditions, the improvement has been continuous with those who have been regular in attendance at the clinic.

Moreover, the surgeon must employ the greatest nicety of judgment before operating (except when imperatively required) upon a patient with an evident pulmonary tuberculous lesion, since it is an established fact, that even at times simple operative interference in those having this disease causes retrograde pulmonary changes.

In conclusion, I may state that in suitable cases I have had considerable success with sodium oleo-sulphonate thigenol in the treatment of atrophic rhinitis, applied as outlined, where all local complicating lesions such as sinusitis or any general cachexia have been eliminated as far as possible by suitable surgical and systemic treatment.

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EXTRA-UTERINE PREGNANCY; WITH REPORT OF CASES OPERATED UPON BEFORE PRIMARY RUPTURE[1].

BY

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Tubal pregnancy is that form of misplaced conception in which the impregnated ovule becomes fixed and developed in the Fallopian tube; other species of ectopic gestation, according to a distinguished authority being simply differences in manner in which a gestation in the tube may terminate.

[1]Read before the Lenox Medical and Surgical Soc., Oct. 22, 1910.

It is generally believed that the spermatozoa enter the ovum while it is still in the arborescent folds of the ampulla whence the latter is carried by more or less ciliated action of the healthy epithelial cells of the lining membrane of the Fallopian tube progressively toward the cavity of the uterus, requiring ten days or more in its transit, and by the absorption of fluid it increases in size from 1/120 to 1/25 of an inch in diameter. The mucous membrane of the uterus during the same time undergoes changes preparatory to its reception; it becomes intensely vascular, is thrown into convolutions and is thickened by an increase in the elements composing the interglandular connective tissue. This adventitious, soft, vascular mucous membrane is known as the decidua vera. The impregnated ovum lodges in one of the folds thus formed, it becomes embedded by further proliferation of cells about it and over it. If perchance it becomes errant and does not enter the uterus the same changes in the endometrium go on excepting the decidua reflexa which does not form.

The ovum being arrested in the Fallopian tube develops its amnion, its chorion, and its allantois, its placenta is formed, but this finds no maternal portion or proliferating surface of the decidua to grow around its offshoots and branching processes; there is only one force concerned in establishing the connection between the ovum and the surface upon which it is engrafted, this is a vital adhesion between the villi of the chorion and the tissues with which they come in contact aided by the presence of more or less plastic material. It is nourished by endosmosis, and as a result of the irritant vital changes going on in the Fallopian tube from retention of a fertilized germ, its walls distend, plastic matter is poured out within the tissues and the canal of the oviduct is obliterated, thus completing the ectopic gestation sac, the development of which produces the affection we are called upon to treat either before primary rupture or after primary rupture.

In making the diagnosis of tubal pregnancy we are called upon to determine two points: first to diagnose pregnancy, which is not always easy, and then to ascertain that it is extra-uterine, remembering also that it is often simulated by other affections in the pelvis, such as broad ligament cysts, normal pregnancy in one cornu of a bifid uterus, ovarian tumor, Fallopian distension, uterine tumor, pelvic hematocele (simple), pelvic inflammatory exudates or abscess, cancer of the pelvis or peritoneum.

Besides the usual physical signs of pregnancy some of which may be present, there are always positive changes as aids to diagnosis. The uterus undergoes a certain amount of development and evolution as in normal pregnancy, the lining membrane also undergoes development, but in intrauterine pregnancy it is claimed that by Rasche's method, liquor amnii in the uterus will produce a sense of fluctuation by bimanual manipulation as early as the seventh week and always at the second month.

Differential Diagnosis:—In the differential diagnosis of the extra-uterine character of pregnancy from normal gestation, there is one point that should attract attention and lead to close examination, namely, the fact that the subjects of extrauterine pregnancy in a great majority of cases have either never been pregnant previously or not for a number of years. The history of the case previous to impregnation is all that we have to guide us sometimes. In many instances of the different

varieties of misplaced gestation the catamenia are suspended; frequently, however, they appear regularly in each of the early months, and in other examples they are either profuse or limited in character. In many cases at an uncertain period of gestation we have hemorrhage, uterine effusion, the effusion of coagula, of bodies which resemble moles or portions of placenta.

Rupture is generally the result of distension produced by the growing ovum in an organ not adapted for its development and which unlike the uterus is not enlarged by vital changes in proportion to the increase in size of the product of conception. In other cases the immediate cause of the accident is separation of the placenta and hemorrhage into the cavity of the cyst which gives way from internal pressure, for in the Fallopian tube the placenta is developed on a different plan from that of the normal placenta, it is developed more on the plan of the same structure in dogs, cats and rabbits; being thus very slightly attached it is easily separated and hemorrhage occurs. It can also take root again on a new site if displaced.

It will be remembered that no true decidua is developed in the tube, the mucous membrane is wanting in the utricular glands which are found in the lining of the uterus; the chorion villi are directly implanted on the mucous membrane which they even pierce. They even go deeper encroaching on and weakening the muscular coat which is at places quite displaced.

As soon as the condition is suspected in the early stage repeated examinations at intervals of a week or two should certainly lead to discovery of the truth at all events, the presence of a distended tube gradually increasing in size aiding in making a diagnosis; and as the affection especially before rupture of the sac is somewhat in the category of a malignant disease a prompt resort to extirpation by the vaginal method or coeleotomy suggests itself. Other methods have been recommended to bring the pregnancy to an end in the prerupture stage. These are puncture of the sac and drawing off the fluid, injections of solutions of morphine and strychnine into it and the passage of electrical currents through the mass with the intention of killing the fetus, but it is doubtful if this is accomplished and moreover it has been demonstrated that after the death of the fetus the placenta continues to grow. To illustrate this last point I shall cite two cases which came under my observation. In the one the development of the fetus which was found did not correspond to the computed stage of gestation and presumedly had perished some time before. And in the other no distinct traces of the fetus could be discovered, still both placentae were to all appearances not in a quiescent state and there was in my judgment imminent danger of rupture of the sac when the coeleotomies were performed.

CASE I:—Mrs. G., age 39, was admitted to St. Mary's Hospital, Hoboken, N. J. She is the mother of three children, but for four years no pregnancy has existed. Just previous to her admission she had passed over two periods when suddenly she began to flow profusely for which her family physician curetted her uterus; as the flow did not cease she was sent to the hospital. When I examined her I found a tumor as large as my fist situated to the left of the uterus extending slightly above the level of the fundus. The uterus was enlarged and soft, but there were no other distinct physical signs of pregnancy. The prevous history of the case coupled with the distended tube warranted me in making the diagnosis of ectopic gestation. I made several examinations though before operating. During the few days that the

patient was under observation she complained very much of severe spasmodic pains low down in the left side.

On opening the abdomen I found intestinal and omental adhesions around the distended tube and in separating these at one place on the anterior surface of the sac blood spurted out in a continuous jet until I had transfixed the broad ligament and tied it off. I then removed the mass intact, the abdomen was then closed and the patient did well afterwards.

Examination of the specimen showed the wall of the tube to be very thin at the point where the hemorrhage occurred during the operation. Incision into the tumor revealed a fetus slightly over ½ inch in length suspended by the cord in the amnionic sac, the latter being surrounded by placenta. I was surprised to find so small a fetus when I supposed the woman to be twelve weeks pregnant. The only explanation I could give was that it had ceased to grow some time before, but that the placenta was still weakening the wall of the tube by its presence and increasing size so that the bleeding which I have mentioned had actually begun before my interference.

CASE II:—Mrs. A. K., aged 23, was admitted to St. Mary's Hospital, Hoboken. She had been married several years and had always been regular until a short time before her admission, when she missed two periods. She sought advice on account of a severe spasmodic pain in the left side of the pelvis, which had come on about one month before, at which time she began also to have a continuous flow. I found the uterus enlarged and soft and a distended tube to the left of it, the size of an orange. I suspected ectopic pregnancy, and after keeping her under observation a few days operated. There were no adhesions around the sac but the portion of the Fallopian tube between the tumor and the corresponding horn of the uterus was hard, about the size of a lead pencil and was bent on itself at an acute angle forming an obstruction in the oviduct. The distended tube was tied off and removed, the patient making a good recovery. The specimen was carefully incised, showing a placenta within the tube, also amnionic sac filled with liquor amnii but no fetus. My belief was that in an earlier stage of its development it had perished and become absorbed, although the evidences of an impending rupture on account of the placenta were not so marked in this case, still the possibility of such a termination was not so very remote.

CASE III:—The impregnation occurred in this patient within the Fallopian tube near its uterine termination making it almost interstitial in character. No fetus was found at the operation but the placenta and blood clot confirmed the diagnosis. I have heard since that the patient afterwards had a normal pregnancy.

CASE IV:—The patient gave the history of having been regular in her menstruation when menorrhagia suddenly developed, lasting three weeks, and for ten days previous to the time of coming under observation she suffered from a pain in her left side spasmodic in character at first but becoming more continuous and severe. Bimanual examination revealed an enlarged tube which was very tender to the touch. The cervix uteri was soft and the uterus enlarged. I suspected tubal pregnancy and performed coeleotomy; with great difficulty I freed the distended tube from adhesion and removed it. Incision of the tumor afterward showed the amnionic sac, the placenta and blood clot within the wall of the tube. The patient made a good recovery but on account of a mural abscess in the thick abdominal wall her convalescence was slow.

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MEDICAL HINTS.

TOOTHACHE OR EARACHE.—Take dram vial and fill with pure water; then drop a tablet of atropin, 1-100 gr., into it. When dissolved it is ready for use. Drop two or three drops into the tooth or ear as the case may be, and plug with absorbent cotton. Repeat every 30 minutes till relieved.—*Med. Brief.*

PTERYGIUM.—Take it off the patient's eye by touching it thoroughly with a wooden toothpick dipped in specific tincture Lloyd's thuja occidentalis every other day. It will certainly do the work without the use of the knife or scissors.—*Med. Brief.*

TREATMENT.

The Treatment of Infantile Paralysis.[1]—The vigorous application of the following measures is recommended by Dougherty.

1. The application of the peroxide to the nasal and oral cavities as advised under prophylaxis. The prominent place which the nasopharynx holds as the most likely portal of entry of infection, as at least one of the localities in which infection may persist, and the well known tendency of this disease to recrudesce, possibly through reinfection from this region, are the reasons for recommending the persistent use of this measure.

2. *Elimination* especially by means of catharsis. Two ounces should be the minimum dose of castor oil for an adult. Active peristalsis should be kept up by means of salines. Enemata of glycerine magnesium sulphate, soapsuds, etc., are often necessary. Plenty of water should be drunk. A hot pack should be applied if it does not disturb the patient too much.

3. *Rest:* The patient should be in bed preferably on his side, with the head slightly raised. The bedpan and drinking tube should be used. The use of a plaster of paris jacket has been recommended, but its routine use in private practice is open to the serious objection that in its application the patient might be disturbed and handled too much. Examinations should not be unnecessarily prolonged, and in making them the patient should be moved or disturbed as little as possible. Examination for stiffness of the neck and for Kernig's sign should not be made oftener than is necessary. Ice should be applied to the spine.

4. *Hexamethylenamin:* This drug should be given in twenty grain doses every hour for three doses or until drachm 1, has been administered. This should be repeated daily. In children it is best given in syrup of citric acid which renders it palatable and will dissolve almost 25 per cent. of the drug. The drinking of water at the time of its adminstration is necessary to reduce the irritation of the gastrointestinal tract. Its beneficial effect is perhaps in part explained by its general excretion through the mucous membranes. This effect is of course constant throughout its administration. Effect is perhaps in part explained by its general excretion through the mucous membranes. This effect is of course constant throughout its administration. Following the use of hexamethylenamin it is known that formaldehyde is excreted into the cerebrospinal fluid and thereby converts the latter into an antiseptic solution. On this fact especially our hopes of limiting with this drug the ravages of the infectious process throughout the nervous system depends. The necessity of bringing about this effect *early* is obvious. Indeed Flexner[2] is authority for the belief that at the onset of the paralysis the blood vessels of the leptomeninges become *for the first time* pervious to the antibodies and that their liberation into the cerebrospinal fluid and tissues serves in many instances to check in a natural and effective manner the further spread of the infective process throughout the nervous system. Certainly the administration of hexamethylenamin in the presence of paralysis should not be continued after the urine becomes cloudy, and this cloudiness is found by microscopical examination to be due to epithelial desquamation throughout the urinary tract. The recently published experiments of Wiggs[3] would seem to show that continuous administration rather than large dosage is to be avoided.

[1]J. P. Dougherty, M. D., *Iowa Med. Jour.*, June, 1911.

[2]Flexner, *Jour. A. M. A.*, Feb. 25, 1911.

The Treatment of Whooping Cough.—Zangger in a recent issue of the *British Medical Journal* says that to combat the infection he administers quinine in the form of one to two per cent. solution of quinine hydrochloride in doses of two and one-half fluid drams (10 cc.), given at 8.00 a. m., 2.00 p. m. and 6.00 p. m., in severe cases also at 11.00 a. m. The one per cent. solution is easily administered, diluted with milk or water, to children under one year of age. For older children who object to the bitter taste he uses, instead, euquinine, administered in powders of two to four grains, three to four times daily. In treating the neurotic element he uses simple hydropathic "packs," which have a sedative influence on the nervous system. They are applied as follows: Spread a child's blanket crossways over the bed, lay on it a sheet, once doubled, soaked in tepid water of 54 degrees (or even 52 degrees) to 60 degrees F., and well wrung out. Lay the patient on the sheet and wrap him in it; the wet pack must reach from the arm-pits to the knees, and be well covered by the blanket. The latter is fastened with safety pins, loosely enough so that the patient can sit up when a paroxysm comes on. The pack is applied at 6.00 or 7.00 p. m., renewed about 11.00 p. m., and left until morning. In cases where the cough is especially distressing later on in the night, it is applied at 9.00 or 10.00 p. m., and removed two or three hours later, when the first convulsive whoops again supervene.

The results claimed with this form of treatment are as follows: Convulsive stage of whooping-cough shortened to from ten to twenty days in medium and severe cases. The number of attacks in 24 hours rarely exceeds 20, and is rapidly reduced to 16, 12, 10, 8, etc. The intensity of the attacks diminishes, also the disposition to vomit. The only complication observed in the author's case was bronchitis. Half a dozen cases which came under treatment with broncho-pneumonia as a complication rapidly recovered. The mortality was nil.

[3]*Southern Medical Journal*, Dec., 1910.

The quinine treatment was continued in half doses for several weeks after the convulsive stage in order to avoid relapses, and also as a general tonic.

Hot Baths in Whooping Cough.—A prominent German doctor, according to the *Trained Nurse*, advocates the use of hot baths, given toward evening, in whooping cough cases. The method recommended is as follows: The water should be about 99 Fahrenheit and the child should stay in the bath from ten to fifteen minutes, the head being kept cool with a hot water compress. The children sleep well after it, and the number and severity of the paroxysms seem much diminished. Attention is called to the skin of children thus afflicted, which, it is said, is usually pale and cool, indicating contraction of the vessels in the skin. The hot bath counteracts this and thus relieves the internal organs, promotes elimination of toxins and soothes the nervous system and the tendency to the paroxysms.

Protection Against Insect Bites.—It is not generally known how valuable a preventive against the bites of mosquitoes, fleas, gnats, midges, and so forth, oil of sassafras is, says *The Medical Review*. The fact has recently been recorded again by Mr. A. T. Girdler. If in a susceptible person the oil is applied at once to the place that has been bitten it almost invariably prevents the poisoning altogether. If applied to the inflamed spot a day or two after the bite it at once stops the irritation. To those who live in the country, and whose life is made a burden by undue susceptibility to insect bites, and to those who have not yet returned from holiday-making in regions infested by biting insects, oil of sassafras should be a great boon, and it is harmless as an external application.

The Treatment of Hydrocele.[1]—Alvarez describes the following three methods of operating for the relief of hydrocele:

1. The simple incision of the tumor, known as Volkmann's operation, which consists in laying open the tumor, irrigating the cavity with a 3 per cent. solution of carbolic acid, suturing the edges of the serous membrane to the margin of the scrotum and packing the cavity with iodoform gauze until it closes by granulation. The disadvantages of this method are: That it frequently fails either from some patch of the serous surface not being destroyed and covered with granulations, or from a diverticulum being overlooked, or in cases of communicating hydrocele when the openings are imperceptible. Moreover, the advocates of this method tell us that if one is rigidly aseptic he may fail to obliterate the sac. They do not state how "septic" one dare to be. I think that in this aseptic era there is no excuse for any operation, no matter how trivial, where the strictest asepsis should not be carried out.

2. The second method, known as the eversion method, or Jaboulay's operation, consists in making an incision down to the sac (and if this is too large, a portion is excised) which is then everted; one or two sutures fix the sac behind the testicle; the skin is then closed over. The disadvantages of this operation are that the everted serous membrane may continue to secrete and the fluid dribble out through the skin wound. Or the function and nutrition of the testicle may be interfered with.

3. The third method, or complete removal of the serous membrane, is known as Bergman's operation. It never fails to cure, it keeps the patient in bed less than any of the two preceding methods, and experience has shown that it does not interfere with the nutrition or function of the testicle. Moreover, in cases complicated with hernia or varicocele these troubles can be attended to at the same sitting. The operation is easy of performance. Incise the tumor until fluid escapes and then proceed to peel off the serous coat from the fibrous until the edge of the epididymis is reached and all the secreting surface is removed. Then resect it all. Be sure to ligate all the bleeding points and then insert a strip of rubber tissue to drain the cavity which is otherwise closed with plain catgut, preferably in two layers; allow the patient to sit up in bed in five days and to be out of bed in seven days, wearing a snug suspensory bandage. There should be very little reaction from this operation. If more than the one sac is discovered treat it in a similar manner. If hernia or varicocele should exist they can be dealt with at the same time.

[1]J. R. Alvarez, M. D., *American Journal of Surgery*, May, 1911.

The Treatment of Residual Urine from Enlarged Prostate by a Second Micturition.[1]—The old man with a difficulty in micturition, says Miller, is apt to be contented with relieving the feeling of distension without fully emptying his bladder. More than 10 years ago the writer recommended that the patient should always make a second effort a short time after relieving the feeling of distension and get rid of as much more urine as possible. He received several communications from medical friends thanking him for the suggestions, which had been of use to their patients and also to some themselves, saving them from the fear and dread of catheter life and prostatectomy.

Suppose that a man, advanced in life, has symptoms pointing to residual urine, such as having to rise twice or thrice during the night to micturate. He should at once commence to make an effort to empty his bladder more thoroughly. It is not necessary or advisable to wait very long before making the second effort. On the one hand a small but appreci-

[1]A. G. Miller, F. R. C. S., Edinburgh, *Medical Journal*, March, 1911.

able quantity of urine will soon collect in the bladder after micturition. On the other hand, if one waits too long the bladder will quiet down and will perhaps not respond readily to the second call on it to empty itself. About two minutes is long enough to wait. If the patient can then expel an oz. or two, residual urine may be diagnosed with certainty. At first the patient should make the second effort after every micturition, except, of course, during the night. After a while it may be sufficient to thoroughly empty twice daily, the best times being before going to bed and on getting up in the morning. In some cases it may be advisable to make a third effort before going to bed. The object is to train the bladder to empty itself. If the treatment succeeds, the amount of urine passed at the second effort will diminish till it reaches the minimum, which may be about a teaspoonful. In some cases the residual urine was apparently completely removed; in others, only diminished; in still others, only the increase was arrested. In all greater comfort was obtained, and the unpleasant necessity of having to rise during the night was got rid of or diminished.

Ten years ago the writer found it necessary to rise twice or thrice during the night. By making the second effort he got rid of an extra oz. or more of urine. By careful practice this quantity was reduced to about a teaspoonful. Now it is even less sometimes. Moreover it is now possible to sleep for 7 or 8 hours without a break, though it is sometimes necessary to get up once during the night.

The Rational Treatment of Wounds.[1]—Sexton comments on the modern treatment of wounds as follows: Unless wounds are suppurating very freely, as a general proposition, they are dressed too often. Peroxide of hydrogen injected into cavities and sinuses often carries the infection further into uninvaded tissue. Peroxide is also too strong to apply pure to newly healed tissue. Sterilized gauze without dusting powder is sufficient protection for any clean surgical wound. Sterile water, saline solution, or very mild antiseptic solution, should always be given preference over the stronger antiseptics, which in destroying the pus cocci, at the same time destroy the new epithelial tissue by which granulating wounds are covered. There is no better protection against infection than the free application of large sterilized pads, or dressings, with which they should be abundantly covered. Absolute physiological rest by a properly applied splint or confinement in bed is a great time saver in the healing of wounds. Silkworm sutures are much less likely to produce stitch abscesses and should be given the preference over catgut wherever practicable. Zinc oxide plaster has a wider field of usefulness as a surgical appliance than has been given to it. In redressing wounds, all materials should be thoroughly softened by warm sterile water before the dressing is removed.

[1]L. Sexton, M. D., *Texas Medical Journal*, January, 1911.

THERAPEUTIC NOTES.

The Therapeutic Uses of Caffein.[1]—The indications met by caffein are: (1) as a circulatory stimulant; (2) as a cerebral stimulant; (3) as a muscle stimulant; (4) as a diuretic; (5) as an antidote in poisoning.

1. Caffein is more than a cardiac stimulant in that it somewhat strengthens the heart and contracts the blood vessels. As a cardiac stimulant caffein can be used at any time when such a stimulant is indicated. It acts quickly to tide over a period of cardiac depression, but is not so quick in its action in acute collapse as the reflex stimulation of a strong alcoholic preparation or the stimulation of ammonia. It is, however, a strong adjunct to the above and with strychnin makes an active respiratory and cardiac stimulant with no secondary depression. If there is in the cardiac weakness a good deal of nervous excitability and muscle restlessness, other cardiac stimulants and tonics should be chosen. The same is true when there is high vasomotor tension. As a cardiac stimulo-tonic caffein is indicated in prolonged fevers in place of much alcohol, and is good in typhoid fever in the form of a cup of black coffee given once or twice in the morning. It is best to avoid it in the afternoon on account of its tendency to cause wakefulness. As a cardiac stimulant in weakened heart action with poor cerebral circulation and mental sluggishness it is often efficient. Patients with good compensation in valvular disease should avoid the stimulation from much tea or coffee.

2. As a cerebral stimulant perhaps no drug equals caffein, not only in a person unused to its action, but in those accustomed to its use. While there is no intolerable and uncontrollable desire for caffein when it is stopped by the ordinary coffee and tea drinker, still at the regular hours for tea and coffee stimulation, if it is omitted the majority of people miss greatly its effects. There is, however, such a condition as the caffein habit, and this habit is on the increase, and its seriousness should be explained to the laity. The hard brain workers at irregular hours, as editors, reporters, authors, and students just before examination, increase the number of hours which the brain will work well by frequent cups of coffee, learning that it is the best and most effectual stimulation that they can take, and often leading to no immediate noticeable secondary depression. As the coffee wakes up the brain, so to speak, it also stirs up the spinal cord and nervous and peripheral reflexes. The man after cerebral stimulation then smokes a good deal, which soothes the spinal irritation, and he then, having coffee plus tobacco can do

[1]*Journal A. M. A.*, May 6, 1911.

an immense amount of brain work. If this is long kept up, sooner or later, depending on the individual endurance, a nervous, irritable condition supervenes with insomnia, anorexia, loss or weight, a tremulous tongue, with perhaps some trembling of the hands, with pale or yellowish skin due to disturbed liver function, and perhaps some kidney or bladder irritability, and we have a neurasthenic to treat. This means that all coffee and tea must be stopped and the patient given a mental rest, change of air and scene, and the institution of every legitimate means or subterfuge to produce sleep.

The chronic tea drinkers of this country are generally the kitchen girls and women who remain in the kitchen and in the house a great deal. The teapot is constantly on the stove and the strong stale brew full of tannic acid and bitter extractives is poured into the stomach at frequent intervals. Here we get not only the stimulation of the caffein, but the irritation of the tannin derivatives on the stomach mucous membrane, and tannin precipitates the peptones and albumins and soon causes dyspepsia. The sooner or later result is sleeplessness, an irritable fretty disposition, anorexia, nervous dyspepsia, or even gastritis, and constipation. Of course, the treatment is to stop the cause, treat the insomnia, dyspepsia and constipation, and give fresh air. Tea tasters show earlier than other individuals decay of the teeth. The above shows conclusively that children up to fifteen years should not drink coffee or tea regularly, and caffeinated soda fountain drinks should be prohibited.

Therapeutically, caffein as a cerebral stimulant can be used whenever a sudden demand for much brain work is required, as also in some mental morbid conditions, but all such use of caffein is purely tentative and symptomatic. The cause of the mental deterioration should be sought.

Caffein has been used as a substitute for alcohol in breaking off the alcohol habit.

As a respiratory stimulant caffein is indicated in conjunction with ammonia whenever respiration is failing. In headache, due to depression, sometimes in auto-intoxication from fermentation of the bowels, in some forms of neuralgia, and even rarely in migraine, caffein is efficient in changing the circulation and thus stopping the pain. Used for this purpose the dose should be 0.30 gram (5 grains), of the citrated caffein, and if there is no improvement in an hour, 0.15 gram (2½ grains) more may be given.

3. As a muscle stimulant, coffee and tea or caffein can be given to aid the endurance of any forced muscle work, especially valuable to soldiers on forced marches, but if such stimulation is frequently repeated the reaction is not satisfactory, in fact, depression will occur.

4. As a simple diuretic, caffein is rarely used, though its good auspices in this line are often sought in cardiac weakness with edema, but cardiac edema is better treated by digitalis unless there is some contra-indication to the latter and its congeners. In renal or hepatic dropsies it may be of some value, but other diuretics are better, if in fact a diuretic is indicated at all. As a diuretic, theobromin is better than caffein. To cause diuresis in general dropsy or in ascites, caffein must be pushed. This drug in ordinary dose does not irritate the kidneys or genitourinary organs, but in acute inflammation of these parts coffee and tea should be stopped.

5. As an antidote, caffein as such or as strong coffee is indicated in any depressant narcotic poisoning as by opium and its alkaloids, chloral, bromids, and other cerebral and spinal depressants. It is, as above stated, always a respiratory and circulatory stimulant. Enough caffein should be given to get decided improvement of the pulse. Strong coffee may be given by mouth or rectum, or caffein may be given hypodermatically. As an antidote to alkaloids in the stomach, tea containing a little tannic acid might be quickly used as a precipitant, but the precipitate soon dissolves in weak hydrochloric acid and in alcohol, hence alcohol should not be given at the same time that tannin in any form is used as a chemical antidote.

HYGIENE AND DIETETICS.

Sleep for Children.—Some remarkably interesting treatises have been recently published relating to the scientific phenomena of sleep, says the *Western Medical Review*, in a strong and interesting editorial, (May, 1911). The authors of these works, while agreeing in the main with the efficacy of "sleep as nature's sweet restorer," still hold the opinion that too much sleep is decidedly harmful, and that the majority of people indulge in the habit to a greater extent than is good for their health. Their views, as expressed on the subject in regard to young children, are both instructive and novel, and in brief are somewhat as follows: that even infants at the breast are allowed too much sleep; that they need not only time to sleep but time to wake if their intellect is to be awakened. The tendency to sleep shown by children and the uneducated is explained on the ground "that their psychic world is so poor that it is almost impossible for them to take any interest in their own thoughts and ideas. It is argued that even during the first four or six weeks of life there ought to be two waking hours during the day, and as the baby grows the duration of wakeful period should gradually increase. All methods of putting children to sleep artificially by means of monotonous sensations are strongly censured, including the crowing of lullabies and the rocking of babies in cradles or simply in the arms. Rocking the child in the arms or cradle is said to produce sleep partly because consciousness is fatigued by a series of monotonous sensations and partly because at the same time artificial anemia of the brain is provoked. Finally the approximate period of sleep neces-

sary for children at different ages is given. Between the ages of one and two years there should be from six to eight waking hours; between two and three years, seven to nine waking hours; between three and four years, eight to ten waking hours; between four and six years, twelve to fourteen waking hours; between nine and thirteen years, fourteen to sixteen waking hours." There is much common sense in the foregoing remarks, but there is also a tendency to rather unduly press the point as to the harmfulness of oversleeping, particularly in the case of very young infants. Rocking a child in the cradle to any great extent is doubtless harmful, but it is difficult to understand in what manner the "crowing of lullabies" can affect the health of a baby. It is also no easy matter to fix the amount of sleep that a person—child or adult—should take by any hard and fast rule; a large degree of latitude must be allowed in this respect, as it is an absolute fact that individuals of different temperaments and constitutions require varying periods of sleep.

The Quarantining Against Anterior Poliomyelitis.—The following circular was issued by the American Orthopedic Association and the American Pediatric Society in reference to acute epidemic poliomyelitis, and addressed to health authorities and boards of health:

"Anterior poliomyelitis is, so far as known, a communicable disease, being communicated from one person to another, and also by means of a third person. It occurs in epidemics, and tends to spread along the lines of greatest travel. There is reason to believe that it is prevented from spreading by quarantine, and with the very great prevalence of the disease in the summer of 1910 it is the opinion of this committee that it is essential that it should be made a reportable disease in all States, in order that its presence may be detected and its spread guarded against.

"Of particular significance are the so-called abortive cases, where indefinite ailments occur in children in communities where frank paralysis also exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study is of much importance. In a community where cases of infantile paralysis occur, cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infectious. In such cases even recovery without paralysis does not establish the fact that the case was not abortive infantile paralysis.

"All cases of infantile paralysis should be strictly quarantined, sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is abandoned. The transportation or transfer of acute cases in public conveyances should be strictly forbidden. It would be very desirable to adopt provisional quarantine measures in suspicious cases in a community where an epidemic prevails. The report of all cases of infantile paralysis to the public health authorities should be enforced by law, and all deaths from this cause should be properly described and registered. A careful study of epidemics by health authorities is strongly advised.—Robert W. Lovett, M. D., *Chairman;* Henry Koplik, M. D.; H. Winnett Orr, M. D.; Irving M. Snow, M. D., *Secretary.*"

GYNECOLOGICAL HINTS.

The gonococcus will live for a long time in the glands of Skene, Bartholin's glands, the glands of the cervical endometrium and the Fallopian tubes. They remain alive only a short time in the vagina and the uterine cavity.—*Inter. Jour. of Surgery.*

Non-absorbent cotton is the best material from which to make vaginal tampons. Absorbent cotton, if used, will collect discharges and so lose its resiliency, while lamb's wool will frequently irritate the vagina, especially in cases of vaginitis. Heavy linen and silk thread are the best materials to use for strings on tampons.—*Inter. Jour. of Surgery.*

A large majority of gynecological patients suffer from constipation which greatly aggravates their disease. Accumulations of feces push the uterus out of place, retard the circulation of all the pelvic organs, and produce general anemia due to toxin absorption. In the selection of laxatives those are to be preferred which will give a normal daily evacuation of the bowels.—*Inter. Jour. of Surgery.*

SURGICAL HINTS.

To perform gastrostomy upon a patient with esophageal obstruction, who can painlessly swallow fluids is a needless, not to say, a cruel, operation—except as a preliminary to a more radical procedure.—*American Jour. of Surgery.*

An injection of bismuth paste may definitely close a troublesome empyema sinus.—*American Jour. of Surgery.*

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The Sixty-second Annual Meeting of the American Medical Association held at Los Angeles, June 26-30, was a successful meeting in all respects except in attendance. In spite of the excuses and explanations that are offered, there are good reasons for believing that the rank and file are losing interest in the annual meeting. An attendance of less than 2,200 with a total membership of 33,960—less than seven per cent—tells its own story. For some reason or another the members do not care enough about the meetings to spend the time and money entailed by attendance. To a certain extent this apparent indifference is a reflection on the interest and sense of duty which every member should have in the work of the Association. The annual program in each of the sections is prepared with the greatest of care. Papers are read and discussed by the men who are making American medicine what it is to-day. It is true most of these papers appear sooner or later in the *Journal.* But there is an interest and enthusiasm—a mental stimulation—that is a feature of coming in personal contact with the leaders in any branch of medicine that is entirely apart from the intrinsic value of their statements or views. No one can go to one of these great meetings and enter into the work of the sections, without receiving a new impetus in his professional life. It increases one's aspirations, broadens ones views and develops one's capabilities. The physician therefore who denies himself the benefits that always accrue from attending these meetings loses much. But there is another side. Those charged with arranging these meetings devote a large amount of time and energy to the social as well as to the scientific program. A small attendance means inconvenience, disappointment and loss. Consequently, those who stay away simply because of indifference and lack of interest are unfair to their committees, discourteous to the local hospitality, and false to the duty they owe to the organization. It does not seem possible that so many physicians would keep up their membership and remain so derelict to their obligations unless there were substantial reasons therefor—and this brings us to the crux of the matter. From conversation with many members, those of ten, fifteen or twenty years standing particularly, we are convinced that the present system of discharging the business—the politics—of the Association is the reason for the decreasing attendance. In the old days, every member was of equal influence and standing, and while there were cliques, and politics were rife, the individual had his vote and he loved to cast it. He felt that he was a factor in affairs and whether his side won out or not, he certainly had a voice in the disposition of the business of the Association and the election of officers

—a chance to cast a vote on every question in which he was interested. Every member attending the annual meeting had a share in the government of the Association and could express his opinion while each and every question was under consideration. In simple words the old plan was popular government with every man equal and free under the constitution.

Under the new regime all this is changed. The government and control of the Association is by delegated authority. In the county society is the only opportunity the Association member has to vote on any general question pertaining to the national body—and the non-member of the Association has the same power. Practically the only question that ever comes up in the county society touching the national organization is the election of delegates to the House of Delegates of the State society. The House of Delegates of the State society in turn elect delegates to the House of Delegates of the Association, which body transacts all the business of the organization. From the foregoing not only will it be apparent how far removed the vote of the Association member is from the current transactions, but also that the non-members throughout the country have practically as much voice in the affairs of the Association as the active members. To be sure, the member has a vote in the section with which he affiliates, but this is obviously restricted to questions pertaining to section work.

The most vital and important factor in the success of any organization is the preservation of the rights of the individual member. Under the present system of organization of the American Medical Association the individual member is a nonentity—he does not exist. If the Los Angeles meeting shows a lower registration than has been recorded for years, those who have at heart the success of the Association can read it simply as the answer to the un-American system of organization that has robbed approximately 33,600 of its members of any direct voice in its transactions or the election of its officers!

Physicians are no different from other men. They prize their rights and privileges and they will not willingly or wittingly give up their prerogatives as free individuals. The American Medical Association has grown wonderfully, it has waxed wealthy and great, but how? Let us make no mistake. Largely through the earnest capable efforts of a few men who were keen enough to recognize the opportunities and big enough to seize them. All credit to the work of those who have brought the Association to where it stands today. Only the most prejudiced can deny the success that has been achieved, or withhold honor and credit from those responsible. But personal effort has its limitations. Any man or group of men can go so far, and then without new aid, and reinforcement, decline is inevitable. History furnishes plenty of examples, and the course of events is as inexorable as a law of nature. In fact it is a law of nature—the law of the limitation of endeavor of any man or group of men.

On May 1, 1910, the membership of the American Medical Association was 34,176. On May 1, 1911 it was 33,960—*a net loss for the year of 216 members.*

The situation is obvious. The work of those who have brought the Association to where it is, has reached its zenith. Splendid as it has been it can do no more.

Without a change, a recognition of the fact that the present epoch is written, the decline already presaged by a decrease of 216 members, will surely become a landslide.

In the interests, therefore, of a noble institution we hope that it can be realized that there is only one fate possible unless provision is straightway made to make membership in the American Medical Association attractive —to give the individual member a place in the direct government of the organization, if only to ratify the transactions of the House of Delegates.

The foregoing has been written and is sent on its way with no other object than to give credit where credit belongs, and as earnest, appreciative members of a worthy organization to voice the hope that the changes essential to its future progress—perhaps very existence—may be undertaken before it is too late.

Membership in the American Medical Association should be one of the most highly prized affiliations that an American physician can enter into. It is estimated that over 100,000 men in active practice can become eligible to such membership and that nearly 80,000 already are eligible, that is, are members in good standing in the county medical societies. While at first blush the fact that only 33,960 physicians have availed themselves of national membership would seem to be a sad commentary on professional zeal and interest, as has previously been said, the real reason for such apparent delinquency can certainly be found in the present system of organization. "Why should I join the A. M. A.?" asks a well known New York physician. "I am a member of the County and State medical societies and I subscribe to the *Journal.*" "Why," he was told, "you should join to contribute your share to the work, to lend your influence to its enterprises, to help elect delegates to its House of Delegates, to hold office and to be able to attend its meetings."

A rather sardonic smile crept across his face. "Well," he said, "I pay five dollars annually as subscription to the *Journal.* Members pay no more, so I guess I contribute as much as anyone to the work. As for helping to elect delegates, my vote counts as much as any Association member's in the County Medical Society, the only opportunity any of us have to vote on any subject. Finally, I can attend the annual meetings, if I want to, and I usually do. About the only advantages a member has over a non-member are the right to wear a red cross button, to hold office and the privilege to discuss the papers in the section meetings. I wouldn't wear a button anyway, nor accept an office under any consideration, and the last meeting I attended at Atlantic City, at the Section I visited it was voted that all physicians present be invited to take part in the discussions. To paraphrase one of the current slang expressions, 'I fail to see very much that the average member has on me.'

It was useless to speak to him of the possible increase of prestige and other advantages that might accrue. It was evident that he had given considerable thought to the matter and was settled in his convictions. Unquestionably there are many like him, men of intelligence and standing who appreciate the *Journal,* but who see little to attract them in active membership.

It only serves to emphasize with new and increased force that membership in the Association must be made more attractive. In other words, it must sooner or later carry

some well defined rights and privileges—some "say-so" in the affairs of the Association—or nothing on earth can keep the membership from going down hill.

To a certain extent those in control have recognized the condition and already there is a committee that has the membership problem under consideration. But no make-shift solution will do. It will be nothing but the rankest folly to acquire members, as has been suggested, by the simple expedient of letting membership in the county society carry membership in the national body. Such a course might strengthen the county society but it can never build up the national Association. It would make national membership little more than a chromo and so cheapen it that it would be valueless. A membership that has nothing but its size to commend it, is worth very little. If the great work that has been started is to be carried to completion, and preventive medicine is ever to reach its highest efficiency, the American Medical Association must develop a membership of at least 70,000 live, active men, who will join because they believe in its policies and wish to aid in its work for the American people. To create such a membership it will not be enough to offer intelligent medical men the husks of affiliation. The type of men who are going to be of any real service in the immediate future of the Association will never be content to be as far removed from the direction of its affairs as the average member is under present conditions. Instead, to obtain the members it requires to carry forward its enterprises, it must offer an affiliation that preserves every right of the individual—free thought, an opportunity of expressing one's honest convictions, and a direct vote on every question. Thus each member will become a real factor—an active force—in the progress of an institution that has no limits to the success it can achieve or the good it can accomplish in improving the welfare of the people.

All this has been written not only with the kindliest motives but with the liveliest appreciation of the colossal energy and effort that have brought the Association to where it now is. There will be plenty who will see some hidden attack in our words. To those who are so narrow and self-satisfied our remarks are not addressed. But to those who in the pride of accomplishment nevertheless place the interests of the Association over everything else, we venture to hope that they may realize that criticisms and suggestions are not necessarily born of enmity or antagonism. With all the sincerity at our command, therefore, we express the belief that an early change must take place in the status of the individual member—or the progress of the Association is at an end. It remains to be seen how those in control will meet this crisis and in the face of personal interests, consider only the greatest good to the greatest number. Can men fail to choose the right when so much is at stake?

The medical profession in Great Britain has never been so profoundly stirred, as by the Bill for National Insurance against Sickness and Unemployment brought before Parliament by the Chancellor of the Exchequer, Mr. Lloyd George. And rightly so; for the bill is revolutionary in an extreme degree in its bearing on the medical profession. The general purpose of the bill, viz.: to provide aid for the wage earners in sickness when income fails just at the time it is most needed, meets with the almost unanimous approval of all sec-

tions of the British public, of all political parties, of all vested interests, including the mass of the medical profession. But when we come to study closely the methods by which it is sought to bring about this much to be desired consummation, they are found to be as pernicious as the purpose is excellent. There is hardly a single interest involved which does not bitterly complain of its unfairness. The friendly societies, the medical profession, the employers, even many of the wage earners themselves whom it is intended to benefit, all object to certain features, and with more or less justice in every case. For us, however, the main interest attaches to its effect on the prospects of the medical profession, and in this light we propose to examine those provisions that deal with the scheme for providing medical benefits for the wage earning classes compulsorily, and for others, so far as can yet be seen without any limitation as to their ability to pay for medical attendance, if they choose to come in on a "contract practice" basis. Confining ourselves to the medical benefit section of the bill, let us first see what it provides. Briefly it is this. Every weekly wage earner, no matter what his income, and all salaried workers whose salaries are below the scale of income at which income tax in England begins to be levied, i. e., about $800 a year—is to be compelled to insure himself with the State, either indirectly through one of the existing friendly societies or, if he is rejected by them as not coming up to the requisite standard of physical health or refrains from seeking such affiliation, through the medium of the post-office. (There are exceptions to this compulsory rule in the case of the army and navy, municipal and government services, teachers, and others already provided for by pensions, government medical attendance, etc.).

Voluntary insurance is to be allowed to all persons, irrespective of income, engaged in some regular occupation and wholly or mainly dependent for their livelihood on the earnings derived by them therefrom, or who have previously been employed contributors for a period of five years or upwards. In his official explanation of the bill, Mr. Lloyd George adds: "A rich man may join the sickness insurance scheme, provided he is a British subject and is in employment. The governor of the Bank of England could join if he liked, and he would receive the State contribution of two pence a week." Married women not employed workers are, however, excluded.

The money to meet the expenses of this gigantic scheme is to be provided as follows: From the wages of the insured, if a man four pence (8c) a week, if a woman three pence (6c) a week, is to be deducted; the employer is to pay three pence (6c) a week for each male or female employee. Where the wages are less than two shillings and six pence (60c) a day and board and lodging are not also provided, the contributions fall heavier on the employer, lighter on the employed. In any case the State adds two pence (4c) a week for each person insured. In the case of voluntary insurance the insured pays both the employer's and the employee's contributions, the State adding its two pence.

The benefits offered are: 1. Free medical treatment and medicines, etc. 2. Treatment in suitable cases, notably tuberculosis, in sanatoria to be especially provided and maintained by the State. 3.

Weekly allowances during sickness. 4. A disablement weekly benefit when necessary of lesser amount at the end of the 26 weeks for which sickness allowance is provided for. 5. A maternity benefit. 6. Certain additional benefits so far as the funds may be found to allow, such as medical treatment for the insured's dependents as well as for himself, increase of the sick or disablement allowances, payment of the sick benefit at the same rate during the whole 26 weeks, instead of a lesser amount for the second thirteen weeks, increase of the maternity benefit, establishment and maintenance of convalescent homes, addition to the old age pensions, payment to those in want or distress, and "pocket money" for those not in receipt of sick pay, which is withheld in the case of those receiving institutional treatment.

The administration of this scheme is to be worked through (1) approved benefit societies that conform to certain requirements laid down in the bill; (2) through the post office in the case of those who do not belong to benefit societies; (3) through county health committees to be established. The benefit society or the health committee is to make its own arrangements with the medical men subject to the sanction of a body of insurance commissioners, to be established under the bill. It is also to make provision for the supply of proper and sufficient drugs and medicines for insured persons, but no arrangement therefor may be made with a medical practitioner save where the insurance commissioners are satisfied that no other way is feasible.

There are three methods under such a scheme whereby the medical men can be paid for their services. (1) by salary, as is done in the case of army and navy medical officers. Such a method with proper provision for tours of duty, leave, promotion and pension, would really "nationalize" the profession, as is proposed by Dr. Benjamin Moore in his book, the *Dawn of the Health Age* (on which we commented in our issue for June, 1911), and would entail as a corollary the nationalization of hospitals and the unification of all the existing State medical services into one national body. This proposition, while in the abstract it may be logically sound, is not that contemplated under the bill, and does not appear to meet with favor at the hands of the profession. (2) By payment of medical men, selected by the insured, from the common fund for work actually done, on a reasonable scale of charges to be agreed on between the profession and the State. This is rejected by the government partly on account of the fact that it would interfere with the vested interests of the friendly societies and their doctors, partly on the ground that it would lend itself to malingering and might lead to collusion between the patient and the doctor, the financial interests of both being benefited by an alleged increase of sickness; and partly because it would be impossible for the State under this plan to estimate its expenses on any actuarial basis. (3) The sole remaining method, therefore, and the one chosen under the bill, is the pernicious and discredited method of a capitation grant for the insured to the doctors who are willing to cooperate under the scheme.

This so-called "Club Practice" method has been, and is being, bitterly combated for good and sufficient reasons by the medical profession as a whole in every part of the world as demoralizing and degrading. Experience has always shown that this contract practice invariably leads to an overworked doctor and

consequently to an inadequately attended patient, sometimes from lack of care and attention, sometimes from lack of scientific knowledge, sometimes from both. To make an adequate income on such terms the doctor has to have under his care more patients than he can possibly attend to adequately however conscientious he may be. As for time for study to keep himself abreast, even reasonably abreast, with the rapid progress of medical science, that is out of the question. The man who has to work till he drops, to earn enough for his daily necessities without any margin as every solely contract doctor would have to, has neither time, inclination, nor strength to study. Such brief and uncertain respites from toil as he gets, he needs for absolute inactivity to recuperate, not for an even more exhausting form of toil. Under such conditions the medical profession will no longer offer anything worth looking at for the best educated class of men, such as the profession everywhere has been straining every nerve to draw into its ranks for years past. It is well known that where a patient pays so much to entitle him to medical services he sends for the doctor at all hours of the day and night for the most trivial causes, and is full of complaint if his summons is not responded to forthwith. If his condition is found to be trivial and is treated accordingly, he is indignant at the doctor's "neglect." It is human nature for every patient to think his own case one of extreme urgency, and to forget, or even not to care "that there are others." As for remembering that the doctor has need of rest, refreshment, and recreation, that rarely enters his head. If a contract practice were based on a small number of patients each paying a relatively high commutation fee, it might be unobjectionable, for with a small clientele the doctor would be able to earn an adequate income and yet not be ordinarily so overrun with work, but that he could devote adequate time to the continuous study of his profession, the study of his cases, and yet have a fair share of leisure for rest, relaxation, and recreation. But all contract practice is based on exactly opposite conditions, viz.: a large clientele at a minimum fee, whereby the drudgery entailed is such that in order to make even a living wage the doctor must forego the continuous study of his constantly advancing science, must give scamped work, inadequate care, and unprogressive knowledge to his patient, and must endanger his own health, and live devoid of the sweetening relaxation which alone can redeem life from sordid drudgery. This has been the experience hitherto. Mr. Lloyd George argues that that is because the average fee that the clubs have hitherto exacted the acceptance of from an unorganized profession is too low. He proposes to raise it 50% from an average per capita of $1 per annum to $1.50! But even at that, under the bill the medical man would have hard work to make it pay though it might help out in the case of a small club clientele supplemented by private practice among those who can afford to and do pay fees. But what is offered with one hand is taken away with the other; for the bill will compel at least two-thirds of those who at present do pay reasonable accounts to the doctor to come on his list as club patients, thus overloading him with contract work and at the same time robbing him of all chance of more remunerative work. And further, while in previous club practice methods the club patients have all been

selected lives, under the bill all lives will be included. The doctor is thus robbed at one swoop of in many cases the whole, and in nearly all cases of a large part, of his outside remuneration, and saddled into the bargain with the extra work of a lot of club patients who under the old regime have been rejected as bad lives.

No profession has ever done more work for nothing from a sheer sense of duty to humanity, and ungrudgingly so, when it has been deserved, than the medical profession, and no profession would more willingly continue to do so in suitable cases as an act of free benevolence. But to compel the physician to spend years in preparation for his at best arduous profession at a heavy pecuniary cost, and then to tell him that he is paid for his services at a pittance that the miner and mechanic, nay the very man who drives him on his rounds, and many others whom this scheme is to benefit, would reject with scorn if offered to themselves, is not statesmanship but oppression. There are medical men—not one but very many—who do a good private practice amounting to upwards of $3,000 a year among a clientele in which the wages in few cases, and sometimes in no case, exceed the amount which the bill lays down for compulsory insurance and for which it promises medical benefits on a contract basis. On such a basis their incomes will be reduced to a third, while their toil will be doubled.

We in this country, unhappily see enough of the pernicious deterioration of honor and morality induced by politics, to recognize the symptoms of the disease in other countries while they are still to the local physicians of the body politic, owing to their comparative lack of experience, in the doubtful diagnostic stage. In this bill we discern not a great, honest, statesmanlike endeavor to ameliorate an undoubtedly calamitous necessity among the poor, but a cunningly contrived bid for political support at the hands of a very numerous class of voters, to attain which the personal equal rights of a supposedly more negligible class, the medical profession, are to be sacrificed *en bloc,* and their actual property—for in Great Britain the good will of a medical practice resembles that of any other business in this, that it is a commercially saleable asset—confiscated. From two directions only was serious opposition naturally to be looked for: First, from those of opposing political views. They, however, while they doubtless recognize the artfulness of the scheme, dare not do otherwise than appear to acquiesce, and even to cooperate, lest their opposition to the methods employed should be construed as an opposition to the beneficent purpose that is ostensibly the cloak to a deep political move. The medical profession, on the other hand, might have been expected on the analogy of past experience to lie down calmly and allow its rights to be trodden under foot, its property confiscated, because it has never hitherto shown any disposition to agree as to what it really regards as essentials in respect to any legislative or social schemes to which its assent has been desired and its cooperation invited. For once, however, it really looks as though the worm had turned. The medical profession in Great Britain has arisen with an unexampled unanimity against the unscrupulous and cynical disregard of its rights. The Colleges of Physicians and Surgeons, the British Medical Association, both the representative body and the various branches,

and even the official General Medical Council of Education and Registration, have condemned the methods of the bill so far as they relate to the treatment of the profession, and call upon it to stand firm in defence of its rights. Even the better part of the press acknowledges the justice of the claims of the medical profession in the main. If it will only for once, therefore, be true to itself and insist that unless its reasonable demands are acquiesced in it will as a body decline to accept and work under the terms proposed, even though the bill should pass it must become a dead letter so far as the medical relief part is concerned. Some blacklegs there will doubtless be, and they will be welcome to their job. They will not be anywhere near enough however, to meet the needs of the bill; for that would require the cooperation of thousands of medical men. And doctors are like soldiers in this, that they must be adequately trained *before* they are needed. They cannot be improvised when the emergency arises.

Therapeutic nihilism and fetishism are the two extremes which physicians avoid quite naturally—at least they try to. Yet it is well worth while now and then to see if we are not loading up with worthless opinions, for we still retain remnants of the fetishism of our ancestors, and, when we discover one drug worthless, are prone to deny efficacy to the others. All men are not liars, even if the Prophet said they were, nor are all drugs frauds. We must remember that superstition is the birth of science for it follows upon the first attempts of primitive man to account for things. Sequence of events naturally was taken as a relation of cause and effect and a few coincidences were accepted as evidence of universal law, so that the false idea became fixed. The ability to find causes is given to but few men, consequently discoveries are rarely made, though everyone seems to be on the search. It is quite natural to hold to what was taught us in childhood, so there is no mystery about the universal therapeutic fetishism of laymen. Men carry potatoes in their pockets to cure rheumatism and wear an iron finger ring for gout or a leather bracelet to prevent cramps.

Professional fetishism is therefore quite easy to explain. The physicians of the past mistook the *post* for the *propter* and taught us the error which we find difficult to abandon.

When we persist in holding to an opinion in spite of proof of its erroneousness we are only human. So it is quite essential to have our baseless opinions collected now and then. Dr. W. M. Barton published a dozen in the *Jour. A. M. A.*, May 15, 1909, and followed them with a dozen more about a year later. Herewith is his list of therapeutic fallacies:

1. Olive oil to dissolve gall-stones.
2. Valerian in hysteria.
3. Tannic acid for internal hemorrhage.
4. Alcohol and ether hypodermically in shock and collapse.
5. Colchicum to cure gout.
6. Anilin dyes as tissue disinfectants.
7. Epinephrin as a heart stimulant.
8. Potassium iodide for scleroses.
9. Chlorate of potassium for stomatitis.
10. Hypophosphites and phosphates in neurasthenia and adynamic states.
11. Lithium salts in uric acid diathesis.
12. Calcium salts for internal hemorrhage.
13. Lead and opium wash in sprains.
14. Aconite internally in neuralgia.
15. Spartein as a cardiac tonic and substitute for digitalis.
16. Nitro-hydrochloric acid in diseases of the liver and jaundice.

17. Physiologic salt solution as a heart stimulant.
18. Nitro-glycerine and amyl nitrite as heart stimulants in anesthetic accidents and shock.
19. Calomel as a cholagogue.
20. Ammonium chlorid as an expectorant.
21. Sweet spirits of nitre as a diuretic and diaphoretic.
22. The pepsin-pancreatin-diastase fetish.
23. Ergot as an internal hemostatic.
24. Old oil of turpentine in phosphorus poisoning.
25. Hydrated iodide of iron and magnesia in arsenic poisoning.
26. Iodium phosphate in phenol poisoning.

Although he has experimental and clinical proof on which to base his opinion, we are not at all surprised that he should be taken to task by conservatives. They have used these things or have seen them used since infancy and it is quite reasonable that they should be shocked at being told a certain drug did not accomplish anything which brick dust could not do.

The use of useless drugs is the paradoxical point we must consider before we take the plunge into nihilism. Civilized intelligent laymen are convinced that there is something to help them no matter what the disease, and in this they are no different from ignorant savages. The sick man is desperately uncomfortable and restless until something is done for him—he does not care what. The feeling of contentment from knowing that he is receiving aid, must have a tremendous effect in bringing that rest which is so essential for recovery, perhaps even quieting an overacting heart and reducing a fatally high blood pressure. We are quite sure therefore that the benefit many find in these useless drugs, though real, is of an entirely different kind than the doctors think—and that if we do succeed in abolishing them, a hundred years hence we will be using a couple dozen others in equally absurd ways and getting equally great mental effects. Why not acknowledge that these things have a use like the fake barometer which a liner's captain always kept in the saloon with the needle fixed at "fair," "for the comfort of the ladies." We need not be ashamed to use a bread poultice or lead and opium wash if that is the only thing a patient needs to get rest—it is more than the barometer fixed at "fair."

Indiscriminate Coughing.—What might aptly be termed the "careless or indiscriminate cough" is not a new subject, but it is one worthy of a little additional thought. Since cough exists as an attempt upon the part of nature to dislodge, or expel irritating substances, from the respiratory tract, it is evident that there is, in the majority of cases, *something* raised by the effort. It may be simple mucus, more or less harmless, or it may be mucus plus *many* other things which *are* harmful and injurious; harmful not only to the patient himself, as in case of reinfection, but only far too often extremely *dangerous* to persons within the "cough zone."

How frequently has one sat in a crowded conveyance, place of entertainment, or any one of the many different situations where people are closely crowded together, and found oneself the objective point of a careless and pernicious cough? The individual beside, behind, or near by, with the persistent symptom which he makes little or no attempt to modify or suppress, is sure to cough violently, spraying those about him with the moist products of his open and unguarded effort.

Those of us who may be fortunate, or unfortunate enough (for our own peace of mind) to realize the danger of the finely

divided products of the cough, cannot but draw aside and feel mighty uncomfortable under the "spraying process."

There are many individuals, as is well known, who think only of themselves. They are either born and brought up carelessly, acquire carelessness, or have it thrust upon them by their environment; when *they* cough, they do so in the most open, direct and violent manner without any effort to prevent the sputum or expectorated material from being projected upon people about them. How often we see the thick, heavy set man with the chronic bronchial affection ferociously cough upon the person occupying the seat in front. His extreme laziness and ignorance of any breeding whatever, prevents him from even holding his hand before his mouth during the act.

It is not uncommon for adults to unthinkingly cough over or upon the face of a child. Material ejected by such coughing and expectoration may be innocuous to other adults, and yet easily become a direct etiological factor of contagious disease in children whose natural resistance is of course below that of older persons.

Children as a rule receive little or no instruction as to cough and its possible effect, and so often grow up without knowing the danger of unguarded and uncontrolled efforts to clear the throat. We know that the mouth, throat and adjacent structures contain pathogenic organisms at all times—even in the healthy person—and that such bacteria may not give rise to trouble in the original host, but when expelled and transmitted by coughing, expiration, sneezing, kissing, etc., to a second person whose resistance is below par or whose respiratory area is especially susceptible, they become extremely dangerous and act as the direct cause of disease. The relative danger of cough to others than the one affected, depends upon existence of specific disease giving rise to the symptom, with presence of accompanying exciting organism which is expelled; to the amount and physical character of the sputum or expectorated matter resulting from the effort; to the virulence of the sputum depending upon germ content and toxic material; to the frequency and severity of the act; and last but not least, to the pernicious, careless, open or unprotected manner of coughing. The majority of patients frankly suffering from pulmonary tuberculosis understand the necessity of protecting others against the cough, but there are even some in far advanced stages who do not, and of course, many who may be victims of the disease without knowing it at all—and these cases are probably the most dangerous.

Osler referring to pulmonary tuberculosis says: "The infection is conveyed by the free, finely divided particles of sputum produced in the act of coughing, and these tiny fragments are suspended in the atmosphere. Those who cough very much and with the mouth open are most liable to infect the surrounding air."

It has been demonstrated that the cough of patients suffering with pulmonary tuberculosis infects the air surrounding the individual for a distance of at least several feet—dependent of course upon the factors mentioned above.

Physicians must frequently speak to their patients relative to this matter of careless coughing and emphasize the danger of infection and re-infection; showing that such carelessness is absolutely unnecessary and uncalled for upon the part of the patient as well as others; that it is a decidedly

uncleanly practice, disagreeable and generally annoying to say the least.

In most instances, cough can be modified or even greatly suppressed and with great advantage to all concerned. At any rate a little consideration for others would abolish the unpleasant "spraying" of the careless cough.

Dr. Wiley's dilemma is of much more than passing interest to the medical profession, for more than any other one person he was responsible for the national Pure Food and Drug Law that almost every one concedes is one of the best and most needed pieces of legislation ever enacted. Dr. Wiley's zeal and activity in the execution of the law has created many antagonisms, unfortunately among men who will stop at nothing to achieve their ends or to wreak their vengeance. Times without number attempts have been made to cause Dr. Wiley's downfall and withdrawal from the public service, but the fact that no charges worthy of official attention have ever been made until now, offers pretty good evidence of the legality of his methods, however radical and extreme they may have been in some instances. At last however, there is great and holy joy in the camps of his enemies and even though his lapse is but technical, the worst possible interpretation is being placed on it. Nothing short of his elimination will satisfy these patriots who see nothing but danger in Dr. Wiley's continuance at the head of the Bureau of Chemistry. We must confess to the liveliest disgust at the narrow antagonism that can see no good in a man's work and that has no motive but to destroy and disgrace its victim. It is true that we have not been in sympathy with many of Dr. Wiley's views. On the benzoate of soda problem we disagree with him entirely. So with the stand he has taken on many other questions. From time to time we have criticized his rulings and questioned the correctness of his conclusions. But this has not blinded us to the general quality of his work or the sincerity of his motives. A man can be wrong on any proposition and still be as honest as the one who is right. And so even though we have felt that Dr. Wiley was too extreme in his views on certain questions and quite wrong in others, we have never believed that he was anything but an able, conscientious official, who was doing his duty as he saw it. We frankly say, therefore, that we shall regret very much to see Dr. Wiley forced to withdraw from public service on account of a technical error. It has not been shown that his act was secret or hidden, or that he personally profited in the slightest. To the contrary, what was done in providing a remuneration that was essential to secure Dr. Rusby's services was a matter of consultation, and in view of Dr. Rusby's signal ability, the government was the gainer in the whole transaction. We are not commending the affair. There must have been some way around the situation that would have been free from the little subterfuge that was employed. Looked at from any angle it was an error of judgment—but that is all. It is not the first mistake that Dr. Wiley has made. Probably he would be as free to admit this as anyone. But the man who never made a mistake never made anything, and Dr. Wiley's successes far overbalance his mistakes. His knowledge, ability and experience are assuredly needed to carry on the work he has started and it will be a sad and serious matter if he is forced to resign from the Bureau of Chemistry, and for no other reason than too great zeal in behalf of the public. Surely there are few honest men who can wish to see a man's career ended for all time by a technical mistake that is as free from any dishonest motive as Dr. Wiley's error has been shown to be.

ORIGINAL ARTICLES.

KATHAREUOUSA AND SCIENTIFIC MEDICAL NOMENCLATURE.

BY

A. ROSE, M. D.,
New York.

Letter from Professor H. Vierordt:

"TUEBINGEN, March 17, 1911.

It is only today that I find leisure to reply to your request, which, however, is so important and essential that it cannot easily be treated in a manner altogether satisfactory in an every day letter. My position in the matter is the following:

1. Our present medical nomenclature needs thorough reform, a fact which is admitted by not a few colleagues, and this reform appears the more urgent because our technical language is in a state of continually increasing deterioration, a deterioration which makes itself felt by causing more and more disturbance. . . . . .

3. All *voces hybridae,* all incorrect formations, have to be eradicated, word monstrosities like gastrosuccorrhoea, polyserositis have to vanish, correct terminations have to be secured, such as you have in numerous examples given in your valued book, "Medical Greek," p. 187 ff. If, for instance, B N A had accepted the adjectival *"ides"* instead of *"ideus"* termination, which latter was favored at that time, the atrocity *"paries mastoidea"* would not have occurred.

4. The transmitted good form is always to be preferred. I, for instance, write these many years *Tabes dorsualis,* because *dorsalis* is later and bad Latin, while the former is transmitted. If hallex is better than hallux, we should prefer the former, etc.

5. The famous, originally colorless, termination "itis" as characteristic for inflammatory disease might perhaps be discarded, but how could it be substituted? We possess only few transmitted words like *πνευμονίη* of the Hippocraticians, might retain pleuritis, for instance *πλευρῖτις νόσημ' ἐστί τοὔ·τὰς πλευρὰς ὑποσωκόος ὑμένος·* At any rate, a definitive and entirely satisfactory regulation will present great difficulties and require great circumspection and tact. *Zimmerer* gives in his introduction to Roth's lexicon, p. xiv, quite a number of such *ῖτις* terminations of older and newer date; shall we accept all of them?

6. More than has been the custom thus far should the Greek "K" be employed in derivations. In Germany this matter has developed, by means of Latin and French, in such a way that we, according to modern orthography, read Zyst, Hydrozephalus, Parazenthesis, Zephalaea, Aszites. These examples, collected by me could be multiplied.

7. As the necessary complement of a thorough revision we should have a complete lexicon of synonyms, in order that also the older literature may remain intelligible and not lose in the value due it.

You see, dear colleague, I have had to write a good deal, in order to bring at least some points into discussion; to present my desiderata completely was not my intention. Let us hope that the present condition, which does not correspond with a historical science, can be improved by the exertion of those who are concerned. It will be difficult labor to guide a multitude, on a distinct road. Continue cheerfully your office as Herald in the fight."

Publishing with his kind permission this letter of Professor Vierordt, I omit one of

its paragraphs which treats on the employment of New Greek in our onomatology, in order to demonstrate first what is to be understood by "New Greek."

There exists in Greece a χυδαία γλῶσσα i. e., the vulgar language and a καθαρεύουσα, the refined language of the educated people, the literary language, and, as we shall see, neither of them is in reality New Greek.

The Greek language has been exalted by men of learning of all times as the unique jewel, the greatest pride of the human mind. It is an inheritance which has been conserved through the milleniums, in spite of all the vicissitudes of the Greek nation, up to the present time. In language everything is explained by logic or by history, which in itself is logic, and the history of the Greek language, the mirror of the history of the Greek nation, proves that an interruption of Greek culture and of the use of the pure, fine literary language has never occurred in Greece, not even after the Latin conquest in 1204 and the Turkish conquest in 1453. The Attic, the classical language, its forms, words, constructions, expressions, orthography, have always been considered as something sacred, and modern Greek, as history shows, is but Attic simplified and complemented. All this has been exhaustively described in my book "Christian Greece and Living Greek," and the simplification of the Attic grammar in the Greek language spoken and written today has been demonstrated in a modern Greek grammar by Dr. Herbert Krueger, of which grammar I have given an English version in my book "Medical Greek." At present I shall confine myself to describe Kathareuousa, the official language of the Greek government, schools, courts, the language of science, of the educated classes, of the newspapers, throughout Greece.

During the four centuries during which the Greeks suffered in Turkish bondage and were secluded from the political world, there was no danger of Greek becoming transformed into a new language, like Latin into Italian. If the Greeks, however, had been in contact with the rest of the world there would be now a different Greek literary language. At that period it was not through the songs of Homer or the writings of Plato, but through the evangelium and the ministration of the church, that old Greek was saved. Sundays and Holy-days, and for hours at the time, all Greeks had to hear in their churches the fine old Greek, and on this account a knowledge of old Greek was transmitted through those four centuries, even among the humblest populace. The masses at that time were ignorant and illiterate, unable either to read or to write, but they understood the liturgy, the sermon, for not infrequently the common people could be seen gathered together after divine service, listening attentively to one among their number who was possessed of a certain amount of education acquired in a convent or elsewhere, explaining the difficult words or expressions.

The long-lasting ignorance among the Greeks had a deleterious influence, and a language with pitiful distortions and mutilations, without grammatical and syntactical rules, a wretched and ugly mixture with barbarisms, the so-called chudaic or vulgar language developed in the course of time. And from this vulgar language of the time of the Turkish bondage originates all that is irregular in the vulgar language of today and all that stands in

contrast to the Kathareuousa, the purified language. There is to be considered, however, the fact that the worst corruptions in language of that sad period have disappeared even from the demotic language of the present, namely, many words and phrases of which the Greeks now would be ashamed. The demotic language is, naturally enough, not one and the same throughout Greece, but varies in many ways in different sections or wherever Greeks are settled, forming the many-fold dialects. A. K. Byzantios in his book "Babylonia" has pointed out these differences and I, in my book "Christian Greece and Living Greek," have illustrated this fact by enumerating twenty-six different names for rainbow which Klon Stephanos has collected. It cannot be denied that there exist poetical beauties in the people's idiom, as they exist in the people's idioms of other nations, but which are not in the regular language. Thus, for instance, τὸ ῥόδον, the rose is τὸ τριαντάφυλλον (the thirty leaves) in the demotic language and ἡ σελήνη the moon, in the regular, τὸ φεγγάρι (the shining) in the demotic language. For this reason there are, exactly as in other nations' literature, loans made from the demotic in poetical literature, in genuine people's books, and in humorous writings. The Kathareuousa is distinguished from old Greek only by some simplified grammatical forms. This Kathareuousa which is free from foreign words and which is spoken by the educated classes throughout Greece, this language of the newspapers, of the schoolbooks, of the scientific literature, of the orators, of the parliament, of the ecclesias, that is all public meetings, which is read and easily understood by all Greeks, even by the peasants who have had only elementary school education, this purified language has not only retained the nucleus of the beautiful classical old Greek, but presents a normal, uniform, simple and harmonious organism, as anyone can convince himself by reading any newspaper of the present day, and, at the same time, it is the solid and indestructible ring which keeps the whole Greek nation together. And this Kathareuousa is not a construction of modern time, or, as some Germans have expressed themselves, a paper-language, but is the genuine historical language of the Greeks. New Greek has been spoken of with contempt by many foreigners who do not know the Greek language spoken and written today and its history, who do not consider it worth while to examine this history, who do not even look at a Greek daily paper, but who, in their ignorance, unscrupulously disseminate misrepresentations. The Kathareuousa originates directly and immediately from the old Greek, it is the language which has existed through centuries. We have to wonder at the presumption and ignorance of those who have been so frivolous as to designate this purified language, which has been spoken and written everywhere by the educated classes of the Greek nation through centuries, as an invention of modern times. In order to demonstrate how bitter Greeks are against the introduction of the vulgar language in place of the Kathareuousa, which introduction has been attempted from time to time, I may be permitted to quote what Dr. Phoustanos, the editor of Ἰατρικὴ Πρόοδος has said in a memorial presented to the Greek Parliament: "There exists on the one hand a gang, composed of vainglorious infernal tools of the enemies of Hellenism and a crowd of psychopathic, foolish, dangerous and thoughtless ignorants, who possess no sense of honor, and, on the other

hand, of some innocent victims, credulous men who are not to be taken seriously, who judge superficially of the language question, which in reality, from the national point of view, is of the greatest importance, and who plead for the introduction of the vulgar language in place of the noble, pure official language which now exists. This crowd of men if they had their way would deprive the Greek nation of its most precious possession, would break the golden ring which conserves the relations of the Hellens of today in all parts of the globe with their glorious forefathers of classical antiquity. They suggest in absurd manner that the vulgar language is the only proper one for popular poetry, popular romance and novels, and for this limited use they want to sacrifice the language of science. The vulgar language would not only appear ridiculous in the scientific literature, but it would also be entirely insufficient. They nevertheless want to sacrifice all to vulgarism; they demand abolition of Kathareuousa, which is understood by the Greeks, which is the only one adaptable to journal and magazine literature of higher type, to literature of the arts and sciences, and which agrees with the high intelligence of the Greek nation. These blockheads try to accomplish something which in no language of any nation has been thought possible or attempted. If such imbeciles with such an idea in other spoken or written languages of intelligent and progressive peoples would succeed, the languages of such peoples would not possess or retain their height, their riches, their grammatical and syntactic regularity. The perfection, the grammatical and syntactic regularity of these languages, has not existed from the beginning and has not been the same all the time, but is the result of long continued exertions and uninterrupted labors and studies of scholars who have been at the head of culture, of spiritual development of the nations. A simple investigation of the historical development of these languages shows that they all were spoken and written differently during the centuries, that assiduous labors of distinguished men of these nations were required, in order that their languages could reach the modern perfection, the simple and harmonious regularity, a linguistic organism. In regard to the Greek of today it is exactly as it is with other languages, it has developed and been made more perfect until it has attained the present high standard, and this has been the result of the uninterrupted labor of centuries. The official, the natural, the recognized language is the general language, notwithstanding the many local idioms of the uneducated classes. In all languages, exactly as in the Greek, have poets written popular tales in the language of the common people, but they never have interfered with the natural development and perfection of the wonderful organism of their languages, as the champions of the vulgar language in Greece have attempted several times already, but always in vain.

I hope I have succeeded in demonstrating what a misfortune it would have been for science if the promotors of the chudaia had succeeded, instead of the Greek government, which has upheld the Kathareuousa; scientific medical onomatology would have been deprived of its basis, for such new Greek, as the malliars—as the champions of the chudaia are called—could not be of service.

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ARTIFICIALLY COOLED HOSPITALS.

BY

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It is amazing that the medical profession has made so little therapeutic use of cold producing machinery, as it is many years since it was discovered that there was some mysterious therapeutic virtue in the breathing of cold air. Consumptives, for instance, were found to improve in winter but not in summer, and they made extraordinary progress towards recovery where the temperature was far below zero F, while in hot climates the rapid mortality is dreadful. Then came the startling discovery that in many respiratory diseases, particularly the pneumonias of children, cold air was almost a specific, even when both lungs were greatly involved and death certain if the patient was kept indoors in a warm room.

In the intestinal infections of both adults and infants cold air is of tremendous importance but a week of very hot weather has repeatedly been known to snuff out the life of every feeble infant in a hospital, and many a child has been saved by rushing it out of the city to the nearest attainable cool spot, in the mountains or at the seashore. If poverty prevents such a change, little can be done for the tiny sufferers. Typhoid fever, when treated in hot glary tents gives a mortality at least treble that of cases in cool comfortable shaded houses.

Long residence in the tropics causes a diminution of blood pressure. There is a dilatation of the superficial vessels without any compensating increased heart power, indeed the heart muscle seems to weaken more and at a greater rate than the arterial muscular fibers. Consequently all mucous membrane inflammations are remarkably difficult to cure but improve wonderfully as soon as removed to colder climates and they relapse upon return of hot weather. The facts are not known to those who are in ignorance of tropical medicine, and some of the cases that have improved in cold conditions have been considered malingerers. The neurasthenic state in part due to these circulatory disturbances has caused such remarkably severe depression of all secretions as to check digestion itself and cases actually starving to death in the Philippines have recovered so greatly shortly after reaching a cool climate, that it was not considered they had been sick at all.

There are numerous cases of persistent bronchitis which have long been described as "tropical colds." The cause is unknown but in some the influenza bacillus is suspected to be the original infecting agent. The persistence of the symptoms seems to be due to the same arterial relaxation which prevents recovery of the intestinal inflammations, for they all seem to subside quite promptly in cold air. Chronic inflammations of the nose and ear are also very common in the tropics and difficult or impossible of cure.

The skin of northerners in the tropics seems particularly prone to a great variety of non-infective inflammations, some of which are symmetrically disposed vasomotor disturbances from auto-toxemias or are manifestations of neurasthenic conditions and some are the irritations of excessive light and heat, but all of them, as well as those due to parasites, seem to be made worse by the disturbances of vascular tone so universal in the tropics. I have recently seen a convalescent who had been

in a deplorable neurasthenic state from undue exposure to tropical light in the south seas and whose skin eruptions defied diagnosis and treatment at the hands of physicians who did not know of these non-infective neuroses. He instinctively came home and promptly recovered in a cooler, darker climate.

The eczema called "prickly heat," is also of vaso-motor origin in large part, if not entirely so, even when it is the seat of an extensive infection. It promptly disappears when the patient is put in a cool room, though it may have previously resisted all kinds of local applications. In a few cases the eruption as in pellagra is confined to the parts exposed to light, and they prove that the causative irritation is the light as well as the heat.

Recently in a tropical hospital a series of observations were made as to the relation of air temperatures to the condition of patients with dysentery. The climate is remarkably equable, the temperature changes being very slight both daily and yearly. When the thermometer was over 82 F. the cases would improve only slowly or not at all and many relapsed, but when a storm brought cooler air and the thermometer dropped below 80 F. there would be a remarkable change for the better. If the temperature was below 75 F. cases would soon be up and about, whereas they had formerly been unable to leave the bed. It has been known for 150 years, that cases sent home from India as incurable have promptly recovered in Europe, and even where complete recovery is impossible a fair condition of health is possible for many years as we see in hundreds of veterans of our civil war, still surviving with chronic dysentery in the cooler parts of the northern states. In none of these cases as far as I know have there been any accurate observations as to the degree of heat which is harmful. It can now be stated that any temperature over 82 F. is harmful and above 85 F. markedly so, and that the nearer we approach 70 F. or 68 F. the better it is for the patient. For this reason, dysenterics sent home from the tropics to die, not infrequently are so much better by the time they reach home that it is difficult to realize how near they had been to death's door only four weeks previously.

Quite recently a report has been published from England of remarkable improvement in a case of sleeping sickness treated in very cold air in a room fitted up in a cold storage plant. In a few weeks the daily stupor was reduced from 23 hours to less than 19, and a hope was raised as to ultimate recovery in this invariably fatal infection. The reason for any improvement at all is more of a mystery than in the case of consumption or pneumonia treated in very cold air. In the two last mentioned infections it has been suggested that very cold air causes a pulmonary congestion which acts in the same way as the mechanical congestion of the Bier's treatment, indeed favorable reports have come from attempts to cause this increased blood supply by restricting that in the limbs.

It has long been known that when the mitral valves are incompetent or the heart enlarged so that the lungs are kept well supplied with blood or even congested, tuberculosis is uncommon, but that the typical consumptive has an undersized heart and perhaps also oversized lungs insufficiently supplied with blood. In the case of the generalized infection of sleeping sickness or in tuberculosis other than that

of the lungs, no acceptable explanation of the benefit of cold air is known. It seems that there is a definite thermal range for each species of living thing which, by the ordinary laws of selection of the fittest, acting through thousands of years, has evolved tissues fit for its environment and for no other. Trout, for instance, promptly die if the temperature of the water is raised only a few degrees. If this law really is universal, then each species of plant or animal to survive is limited to a very narrow zone. Man too, must be adjusted to certain temperature ranges according to his type, and though he can stand enormous differences for a little while, any prolonged exposure does seem to reduce his resistance to invading organisms. Eskimos die of pneumonia in New York and Jamaica negroes in Panama, and white men of tuberculosis in any tropical place.

Moreover there is plenty of evidence that an equable temperature is not the advantage which the old school of climatologists assert, if the physique is adjusted to daily and yearly variations. For instance, it is incorrectly assumed that tropical monkeys in our zoological gardens must be kept in a warm room day and night and carefully guarded from cold air. Their frightful mortality from tuberculosis even with perfect ventilation should have given us a hint that something was wrong. As a matter of fact, in their natural state they experience a marked degree of cold every night, and personal observations show that the night air of the forests of tropical mountains where these monkeys live, may be painfully cold. If they do not get this cold air, they are injured, and cases are known of their surviving in outdoor cages for many years, summer and winter, as far north as the Carolinas. A few years ago, before the benefits of cold air for tuberculosis were known, a case was reported of several monkeys received in America, but half were sent to a zoological garden in Kentucky where they promptly died of kindness in a warmed cage, that is, they died of tuberculosis within a year or two, while the others, sent to a friend in Carolina, who "brutally neglected" them by keeping them in an outdoor open cage all winter, were found in perfect health several years later. It was said that these two had "learned" to huddle down under the straw in the corner of the cage in winter and seemed to be perfectly comfortable in freezing weather, but it is quite likely that their ancestors had "huddled" similarly every cold night for thousands of years. If the keepers of zoological gardens would give every tropical animal the degree of cold and the daily and yearly variations of temperature it needs, we would probably see a reduction in the deplorable death rates. Few people realize how cold it can get in tropical mountains at night. It must be remembered that the winter sun in the northern tropics is not any worse than the summer sun much further north and that every 250 feet of elevation is equivalent in temperature range to one degree of latitude so we may have in tropical mountains arctic species which promptly die if taken to the hot lowlands.

The tropical negro is protected from strong light but is adjusted to much more of a range of temperature than we have realized, and he survives a southern outdoor life in America like the monkeys we mentioned, but let him go further north and take up house labor as he is strongly inclined to do, and he, too, dies of tu-

berculosis. The northern European is adjusted to a far greater range than the negro, but it must be intermittent. Experience shows that in very high temperature he suffers less from sun stroke than the negro whose black skin absorbs so much more of the heat. In the hot fire rooms of ships, negroes suffer far more than white men. The intensely hot days of the short hot summer do no harm to the northerner if he has cool nights, and he thrives in the bitter cold of winter with its rapid daily changes, but in an equable temperature of even moderate height, say 70 degrees, he goes to pieces in a few generations. The lessened nasal aperture of northern races positively prevents proper breathing in hot air for they cannot get enough of it, while the open nostril of the negro admits too much very cold air. So it is quite likely that every type of man is tethered by his physique to a very limited environment, and if he is adjusted to cold air, then he must have it or deteriorate in some way, irrespective of the damage known to be due to excessive light if he migrates to a place where he is insufficiently pigmented.

The general principle of placing a sick man in the environment for which his physique is evolved by ages of selection of the fittest, will fully account for the benefit of cold air in pneumonia, tuberculosis, dysentery and the other conditions above mentioned, but the point to enlarge upon is the fact that in practically every disease sweltering heat is lethal and cooled or cold air beneficial to every type of man. We can leave to future investigators the determination of the details of the mechanism which accomplishes these results. What we, as practicing physicians, need note, is the proved fact that cold air was discovered to be good for white consumptives and when tried empirically it did cure. Nearly all the text-books state that tuberculosis needs an outdoor life in an equable climate with the maximum of sunshine, but in the very next paragraph will call attention to the fearful rapidity of the disease in the Philippines where the conditions are "ideal" and the splendid cures in the Adirondacks where everything is "wrong." As a matter of fact, in spite of the text-books, hot equable sunny climates are being instinctively abandoned for cold, variable cloudy ones, even where there are 285 stormy days a year. The climate should approximate the one to which the type is adjusted, a tuberculous Eskimo should be sent to Greenland, a Sicilian to Sicily and a Scotchman to Scotland even if his home country is cloudy 325 days in the year. In the prevention of deterioation and illness, the modern movement for sleeping outdoors, is based on strictly scientific principles and is neither empiricism nor a fad. If laymen would only stop their foolish habit of overheating their houses, there would be a marked improvement in health. Business men will find fewer clerical errors and get more good work out of employees, if the rooms are kept cool and not at the stifling tropical heat so popular with janitors in mild weather. The cooling of office rooms in summer would be a most profitable business investment.

But we can not send an acute case of any kind on a journey to a proper environment so we must build up one for him. In the winter we rig up rooms on the roof or veranda for the benefit of the cold, but in summer we hold up our hands helplessly and let the sick die instead of creating the cold air they need. We give them cold

storage in the morgue after they are dead, instead of keeping them alive by it.

There is no earthly reason for this helplessness, when it is such a simple matter to cool the air of hospitals. The system is in practical operation in other buildings and has been for many years. All that is needed is a "steam-coil" or "radiator" in which cold brine circulates instead of hot water. Instead of "radiating" heat, it is an "absorber," and the air forced around the pipes may be cooled to any required degree. Calculations show that what is described in the trade as "one Kilo-watt ammonia compression set," is sufficient to cool from 95 to 55 F., all the air needed to ventilate a twelve bed ward, and can be installed on a base 10 feet square. The pumps and fans being run by electricity, there is no engine to bother with, and the ammonia which may leak out will not annoy us if the apparatus is in the basement. The air is damp when it leaves the coils but it warms up en route to the room or can be warmed so as to be delivered dry. The coils, of course, drip moisture deposited from the air as it is cooled and can not be put in the living room. The air should be delivered near the floor, and the escape valves put at the ceiling for the warmed impure air.

The details can be worked out by any engineer or architect who knows how and very short experience will show how to keep the room at any required degree. We can defy the death dealing hot season, particularly in the case of the sick babies now slaughtered by every hot wave. From personal experience of the benefit of the very slight reduction of air temperature by storms in the tropics, I have no doubt that if all tropical hospitals were so equipped the record of cures would be several times what they now are, and the home-going stream of invalids enormously reduced. Panama needs such rooms and so do the Philippines.

There is no reason indeed why we should not go to the same expense in cooling our tropical homes as we do in warming our northern ones. Health would be preserved longer, if not indefinitely, if a northerner residing in the tropics, would have a cool shaded house to go to daily after several hours in the stifling heat. Such a life would not be so very different from the summer of the north, and being in a normal environment, his work and his thoughts would be far better than the neurasthenic output of old residents who always put off until to-morrow what need not be done to-day. Instead of four hours' keen mental work being the maximum for efficiency, perhaps clerks in cooled offices could be trusted to be accurate for six or seven hours as they are at home.

Tropical houses are built with the sole idea of obtaining through and through ventilation, no matter what the direction of the wind, as a very slight air movement makes it possible to endure quite a high temperature where a calm is stifling. Yet if we have means of ventilating with cold air, there is no earthly reason why the houses should not be as tightly built as those of the north. For hospitals the air cooling arrangement is imperative. Consumptives, for instance, should leave for the north the moment the disease is discovered, but it frequently happens that a month is unavoidably lost waiting for a boat, and I have personally seen cases die as a result, but they would be saved if placed in air as cold as that found best in the Adirondacks. It is certain that in other

affections in the tropics as well as in the dreadful summer diseases of infants at home there would be an enormous reduction of mortality and sickness. I have been informed by a physician who had much experience with sick soldiers in the summer of 1864 and 1865, that if they were stopped off at Washington or Baltimore, it was exceedingly difficult to keep them alive and an effort was made to rush the hospital trains on to the cool spots of New England. If we have another war the hospitals must be established in the cold north, and those in the south must be mere collecting points unless they are artificially cooled and protected from light.

REMARKS ON LABORATORY INVESTIGATIONS OF ANTISEPTICS AND GERMICIDES.

BY
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The most rational method of determining the clinical value of antiseptics and germicides, in fact all medicinal preparations, is physiologically on the living animal, preferably on man or animals biologically related to man.

Before the role of bacteria in disease had been recognized, it was the aim in the treatment of infected wounds to simply remove the bad odors almost always present, in the belief that healing would occur quickly after this had been accomplished. In consequence, chemists sought for preparations which would neutralize such offensive odors, as for instance, mercurial compounds in the case of sulfuretted hydrogen, one of the most common constituents of bad smelling wound secretions. Coincidently, however, many such chemical compounds killed the bacteria present in these secretions, although the investigator himself in those days was yet unaware of their activity in the causation of disease or even their existence; and the idea sprang up, very naturally, that a substance which we would term at the present time an antiseptic or germicide acted and cured solely by virtue of its deodorizing properties.

When subsequently the existence and action of bacteria was clearly established, principally through the studies of Pasteur and his school, and the bacterial origin of disease was duly recognized, the chemist again went to work to find bacterial poisons —germicides, bactericides—and, naturally, employed the test-tube and other means and modes of research in common use in chemical laboratories and investigations. The idea then prevailed that the chemical analysis of a substance not only showed the actual amount of some principle of supposed antiseptic value but also demonstrated its clinical efficiency. As, however, the study of micro-organisms developed more and more into the science of bacteriology, bacteriologists with their special methods of research began to enter this field and the purely chemical standardizing of antiseptics and germicides became gradually of subordinate importance.

Although this doubtless was a great step in the right direction, we are today beginning to recognize the deficiencies of such bacteriological methods of investigation from a clinical standpoint. We are awakening more fully to the vast difference existing between the conditions under which the bacteriologist makes his observations and those which the medical practitioner encounters.

As illustrative of such differences and in order to show clearly that the results of

bacteriologic tests are not necessarily convincing as regards the actual therapeutic value of an antiseptic and germicide, which alone is of interest to the clinician, I desire to call attention to a few facts regarding this class of preparations.

While the bacteriologist makes his observations on a single specific type of micro-organisms which he has endeavored to isolate, in medical practice mixed types are ordinarily encountered. Such "symbiosis" of different bacteria will doubtless cause and necessitate modification and changes in the general character and biology of each individual species present, so that results obtained on a specific type of bacterium in association with others must differ from those gained on the isolated species in "pure" culture.

Furthermore the bacteriologist uses such media as bouillon, broth, agar, and the like, for the culture of his bacteria, which media never constitute the natural soil for their growth in the body. Not only may the antiseptic and disinfectant under investigation diffuse distinctively in such media in accordance with the physical nature of the latter, and not only may specific chemical reactions occur within it, but the bacteria themselves may be influenced and affected in a characteristic manner. By this I mean, that just as in higher types of animal life the metabolism and resultant products are dependent on the character, as well as the quality and quantity of the food consumed, so also will the bacterial metabolism and in particular the metabolic end-products not only greatly depend on the nature of the pabulum of the micro-organisms but also on the conditions of light, temperature, etc., under which it is absorbed. Therefore, the bacterial end-products will vary most markedly when two so distinctly different media for the growth of micro-organisms are employed as the inert, "artificial," culture-medium of the bacteriologist, on the one hand, and the living, very active, infected tissues with which the clinician deals, on the other.

But even, assuming for the moment, that such metabolic end-products, endotoxines, were identical in both cases, they are—and this it seems to me is the greatest point of difference—more or less neutralized, antidoted, destroyed or removed through the physiological activity of living cells at the site of the infection, while they remain present and hence are able to exert their effect in the artificial culture-medium of the bacteriologist. Thus in his endeavor to study the action of a certain chemical compound on a given class of micro-organisms the bacteriologist is *re vera* observing the combined effect of compound and bacterial endotoxines, etc., the latter depending upon the nature of the culture-medium employed, and, as already stated, differing besides in most instances radically from those produced by bacterial activity in infected living tissue. Furthermore, in the culture-medium of the bacteriologist the endotoxines are not only not removed, but constantly increasing in quantity.

The importance of this fact has not yet been sufficiently recognized by many bacteriologists engaged in studying the antiseptic and germicidal action and value of various pharmaceutical preparations, especially for the reason that apparently, according to a law of nature, every process—biological no less than chemical and physical—produces just such a compound and effect as is detrimental to its own undisturbed continuance, the process finally terminating if the resultant substance or effect is not from time to time excluded or counteracted.

That means, applying this law bacteriologically, that the processes of bacterial life and metabolism produce compounds and conditions inimical to the bacteria themselves and therefore acting, *per se*, as antiseptics and germicides. Thus, for an example, lactic acid is produced from milk-sugar by bacterial activity, but only up to a certain concentration, for beyond this point it acts as a poison—an antiseptic and germicide—for the lactic acid bacilli. It therefore becomes necessary from time to time to remove or neutralize the formed lactic acid, if the continuance of the acid formation be desired—just as it would be necessary for the bacteriologist to continuously eliminate from his culture any product of bacterial metabolism in order to avoid disturbance and interference in studying the action of the particular compound under investigation. The efficiency of alcohol as an antiseptic and germicide is also clearly elucidated on the basis of this law; alcohol being a metabolic, i. e., endotoxic product of microbial activity. I may add that for similar reasons many other products of fermentation—the close relationship between this and infection is obvious—will be found to possess antiseptic and germicidal action and should be of value medically.

Viewed from the above observations and from the standpoint of this law, one would be inclined to conclude that conditions for the growth and spread of bacteria—*ceteris paribus*—should be more favorable in the living tissues than in any artificial culture-medium. And this has indeed been found experimentally to be the case in very many instances. Thus, for example, the very powerful test-tube antiseptic and germicide, tetra-brom-ortho-cresol, has proved ineffective clinically for internal disinfection even when administered in a dose more than one hundred times that which has been found to inhibit bacterial growth in vitro (*Hoppe-Seyler, 47, 1906, page 173, Bechhold & Ehrlich*). This is not due to the fact that this compound belongs to that large class which by forming precipitates with the albumen, constantly present in living tissues, are rendered inert and practically valueless for therapeutic purposes. Similar observations have also been made with tincture of iodine, used at present with such excellent results in the preoperative sterilization of the skin, which Laiacons (*La Ginecologia Moderna*, 1909, Sept.) has found to destroy certain bacteria such as bacillus diphtheriae in test-tube experiments, while not affecting the same when growing on the skin. Equally interesting in this connection are those more infrequent instances, where a compound will manifest an antiseptic effect *in vivo*, but little or none *in vitro*, as for instance in the case of iodoform, which exerts an antiseptic iodine action only after having been chemically decomposed in the tissues.

So much for the criticism of observations and results due to the differences in the soil for the growth of micro-organisms in bacteriological and clinical investigation. I shall now speak of a property common to all chemical preparations which can never be studied or even be observed in an artificial bacteriological culture-medium and was in fact discovered and recognized only when experiments on living tissues began to be recorded. I am referring here to what I may call the indirect, secondary action of antiseptics when coming in contact with living cellular tissues, an action which has been termed stimulating, and which is only in part chemical, the remainder being of a physical, mechanical character, similar

in kind to that produced by any foreign matter upon living structures. It seems to me that in studying the relative germicidal and antiseptic power of chemical preparations the fullest knowledge of this secondary stimulating action is particularly desirable.

Ordinarily the body is constantly producing protective substances which prevent disease and infection. If such process has been arrested or disturbed, conditions will arise in the tissues which favor the invasion of bacteria and the formation of their toxins. Looking at an antiseptic or germicide from this point of view, one is readily able to understand how its beneficial influence may be mainly due to its promoting the normal cellular activity of the tissues, by inducing hyperemia with increased leucocytosis, etc.; such compound might act simply, so to speak, as a "normalizer," stimulating and reestablishing the normal resistance power and protective conditions of the tissues. An infection, i. e., the growth and spread of pathogenic bacteria in living tissues, may thus be viewed as a symptom of an abnormal, "weakened" condition of such tissues, since these, when in their normal state, afford no possible soil for bacterial existence. Let us for example, look at such activity in connection with what is ordinarily called a "cold"—say a cold in the head. The individual has perhaps been in a warm room, the atmosphere of which absorbs large amounts of moisture, so that to keep in its natural moist state, the nasal mucous membrane must produce an abundance of fluid. The person now leaves the room and goes into the cold wintry street. The nasal mucous membrane does not immediately accommodate itself to the colder air, which does not remove and take up as much moisture as the warm air of the room, but keeps on secreting equally large amounts of fluid, with the result that this now accumulates in the nose, "denormalizing" and lowering the resistance power of the mucous membrane, by diluting the protective and anti-bacterial substances in its secretion. Conditions are now ripe for the growth and spread of bacteria, always present, and what was in the beginning only a physiological irregularity —in the main, a lack of quick accommodation of the nasal mucous membrane to a change in the atmosphere—becomes an infection. One readily understands that an antiseptic, *per se,* while certainly beneficial under such circumstances, does not go to the source of this disturbance, acting simply on its symptomatic manifestations. What is really desired is the restoration of the nasal mucous membrane to its normal condition, particularly in regard to its degree of moisture.

Such and similar irregular physiological conditions are always precursory to the starting up of an infection. As medical science advances, we may hope, however, to recognize these functional disorders before they have become intensified and evident by the development of infection, when they are so much more difficult to control, especially if internal organs are affected.

Another important point which will always be overlooked unless antiseptics, etc., are studied physiologically and clinically, is their action on the healthy living tissues. An essential feature of every compound which is to be used pharmaceutically, apart from its specific curative action, must be freedom from destructive and denormalizing tendency upon healthy tissues. Whenever, because of an escharotic or other untoward effect, a preparation fails

to meet this requirement, it will help the antagonistic process to spread and the infection to diffuse and increase, rather than retard or cure it. Owing to the fact that in the past our studies of drugs, and particularly germicides, have generally been conducted too much in the laboratory, we have come to desire those very properties in disinfectants, etc., which render them efficient in the test-tube, being under the impression that the possession of just such qualities would also increase their beneficial activity when brought in contact with the tissues. Hence we still desire of an antiseptic that it be soluble in water, since bacteriological test-tube observations have always demonstrated that this enhances its power. Yet experiments have been recorded, as, for example, by Rideal and Walker, which actually show that a disinfectant containing 10% of tricresol in emulsion is equal in bactericidal power to one containing 30% in solution when tested upon B. typhosus (*Bacteriological Examination of Disinfectants by William Partridge,* London, 1907), and besides it must be borne in mind that nowhere in the body is a fluid of the nature of pure water to be found. All physiological media of a liquid nature are solutions of salts, ferments, secretions of a fatty and albuminous character, so that even if the old scientists were right in saying, *corpora non agunt nisi fluida,* the menstruum met with physiologically is never water. It therefore seems absolutely unwarranted to require of an antiseptic and germicide, which is to be used on infected surfaces, that it be soluble in water, and this demand and requisite has resulted from endeavoring to employ methods and tests which are in use in chemical and bacteriological laboratories in studying and ascertaining the clinical efficiency of antiseptics and germicides. On the contrary, the above test with tricresol and many similar experiments should lead to the deduction that solubility in water might not be perhaps even a desideratum for a disinfectant, since chemical preparations soluble in water—so advantageous when studying them in the culture media, mostly of an aqueous nature, in the bacteriological laboratory—are rarely soluble also in fats and oils, which latter are contained in all tissues. Compounds soluble in fats and oils will adhere better to such tissues and membranes and penetrate them more freely and easily.

It is owing to its free solubility in water also that bichloride of mercury, for instance, proves so remarkably efficient in the test-tube, and is today regarded by the great majority of physicians, who have always been thoroughly familiar with the results of laboratory experiments, as the king of antiseptics. Clinical experience as to its value as an antiseptic has shown, however, that in contact with the living tissues its "test-tube" efficiency is greatly impaired, and for this reason and its many undesirable by-effects, also to be observed only in actual practice, it has become somewhat dethroned from its so long undisputed seat of supremacy.

In the above desultory remarks I have endeavored to demonstrate some of the important differences between the methods of studying antiseptics and germicides in the bacteriological laboratory and their actual mode of employment in clinical practice, with the idea of showing that results obtained in the former field are of less value than is generally attributed to them and may not in the least be corroborated by observations in the latter. What we really care to know about a pharmaceutical prep-

aration, in particular about an antiseptic, is not its germicidal power in an artificial culture-medium, but rather its morbicidal, disease-destroying properties in the living body. Unquestionably chemical, biological, bacteriological investigations should be carried on laboriously with all pharmaceutical preparations of this kind, but it must be remembered the practitioner for whom all these studies and tests are made is only interested in their "physiological" efficiency, their efficiency in fighting the "living" infection. There are endless numbers of substances which will kill bacteria in the test-tube and in the hands of the bacteriologist and chemist, but there are only comparatively few which are available for such work in the body. In most cases in studying a preparation as to its antiseptic value, the question will narrow itself down as to whether its affinity is greater for the bacteria present at the site of infection or for the cellular constituents of the tissues (*Bechhold and Ehrlich,* l. c.); that is, whether such preparation is destructive to the germs and little, if at all, to the tissues of the body. This question, as I have attempted to show, can never be answered by bacteriological and chemical investigations alone, but chiefly by physiological methods of research or chemo-therapeutic methods —the latter consisting in studying the compound physiologically with a view of so modifying its chemical character as to improve its desired action and obviate any deleterious by-effects.

SURGICAL HINTS.

The *x*-ray shadow of a deposit in the subacromial bursa may easily be mistaken, by the inexperienced, for that of a fracture of the tuberosity of the humerus.—*American Jour. of Surgery.*

THERAPEUTIC NIHILISM.[1]

BY

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The therapeutic nihilism that is now and has been for some time past rampant in the ranks of our profession, is, with the majority of its confessors, more a matter of fashion rather than the result of serious reflection and study. To follow one or another who has gained eminence in medicine, too many think is the proper thing. Too often it only means that such a follower is but one of a flock of sheep blindly following a bell wether. This insensate practice not only stifles originality of thought, but what is worse, it has fostered laziness in the study of materia medica, pharmacology and therapeutics. This in turn produced therapeutic ignorance and many cases go on in invalidism and suffering that could be, if not truly cured, at least, much relieved, made more comfortable and in some instances, have their life and usefulness prolonged.

Before I attempt to recite specific instances of the value of therapeutics, it may be well to examine the conception and birth of this creed.

Its birth lay in the failure of therapeutics in advanced organic disease, such as tuberculosis, cancer, advanced Bright's, and cardiac disease that has passed to the stage of failure of compensation. Then Virchow gave to the world his famous "Cellular Pathology." He pointed out the real damage and with a microscope everyone could see these for himself. How could mere drugs restore to integrity these diseased cells? That disease processes are sometimes arrested and that the human

[1]Read before the American Medico-Pharmaceutical League, May 22nd, 1911.

body has a wonderful compensatory mechanism is all forgotten. Converts to this nihilism grew rapidly in numbers, particularly among those who had the greatest opportunity for observation in large hospitals where autopsies are frequent.

Then came Pasteur with his discoveries of micro-organic life and that long series of brilliant studies that showed the relation of these to disease. When Lister showed the value of antiseptics in overcoming micro-organisms, antiseptics became the drugs of the day, but when it became evident that their use in doses sufficient to destroy pathogenic organisms, could not be supported by the economy, then louder than ever did they proclaim their creed of non-faith and its justification.

It is quite useless to recite their attitude toward the antitoxins when these came out, some of them are still unconverted; others have added these to the few other specifics which they except from their creed.

Such is the conception and birth of their creed and it now behooves us to examine the premises upon which their faith is founded. I think that you will all agree with me that the autopsy room is not the first or even the best place to study or determine the value of therapeutic measures. The autopsy is admirable to determine the correctness of our diagnosis and so indirectly proves whether our treatment was correct according to the diagnosis, yet such is hardly a logical argument. When it comes to basing this unbelief upon the experience in the wards of large hospitals, we usually find this unbelief less fanatically held and in the wards reliance is still placed in drugs to tide patients over critical periods. Still the large general hospital with its thousands of cases, many from the nether world, many that must be discharged as soon as it is reasonably safe to do this, and these soon lost to sight and further observation, I ask you is such a field the fairest ground upon which to judge therapeutic efficacy? Surely not; and yet upon these largely is founded this unbelief.

The results obtained in pharmacological laboratories will be brought as an argument against me. I am fully cognizant of the widespread movement, inspired by the Strassburg School, aiming to determine accurately the pharmacological value of each drug. This movement does not inspire me with hope that it will materially add or detract from any drug. It is true that we must know the physiological actions and dosage of a drug before we dare use it, and that these must be determined in the laboratory, but the laboratory can tell us little indeed of its therapeutic value, for the laboratory experiments are conducted on healthy animals, while on the other hand those that come to us are sick and you and I are interested to know what drugs will do in disease—not in health. The practitioner and not the laboratory man must ever be the one to speak the last word on therapeutic value. The head of a large clinic or of a large hospital, as has been shown before, is not in as good position to form a judgment, as was the old fashioned family practitioner. He knew and knew well two and three generations of a family; he empirically knew certain things that today have been scientifically explained. When he stated that this or that child would probably outgrow this or that, he spoke from personal knowledge or experience.

Let me relate an example: A physician now about fifty years old, during that period from his twenty-eighth year to beyond his fortieth, had 3% of albumin in his

urine. He did not seem any the worse for it; followed a large practice for a long time, then went into the practice of a specialty and now his albumin has entirely disappeared. What treatment, if any, he followed, I am ignorant of; nor does it matter; his condition certainly would have warranted a grave prognosis. But let us stop and think these things over. If the etiological factor responsible for his albuminuria ceased to be operative and the damage be one that was confined to the tubular epithelium, why should these not in time be replaced by subsequent healthy cells? Their replacement is a physiological act. Is it then so widely utopian to believe that medicine can aid the body in the regeneration of diseased organs? Optimism has given the world the good things, not pessimism, and therapeutics is no exception to this.

Drugs are much like tools, we can only learn their value from constant use, and that alone can teach us their proper handling. We should know these as well as does the artisan know his tools and then figuratively speaking, we will not choose a wood drill when we desire to make a hole in iron. *A propos* of the Strassburg movement let me say that some of the drugs that will show up to little advantage in laboratory tests, show to far better advantage in the sick room, as the following instance illustrates.

A woman 23 years of age, seven months pregnant for the first time, presented edema of the ankles, feet and eyelids; urine scanty and loaded with albumin, headache, etc., you all know the diagnosis. She was put on a restricted diet, alkaline saline cathartic, and a lithia water; under this treatment, the quantity of urine almost doubled and the total amount of albumin decreased as did also the edema and the other general symptoms. The patient then took a hot bath which seemed to produce a vulvar edema, which was relieved by acupuncture and things went along satisfactorily to the physician. Interfering friends thought she should do better, so doctors were changed. The new man who came in, scolded that such a patient should be allowed to move about; ordered her to his hospital, there put her to bed, strict diet and *no* medication. What was the result? In the next twenty-four hours she had three convulsions and the next day the uterus was emptied of a dead child. I do not want you to imagine even for one minute that I am going to contend that this woman might not have had the same deplorable events happen under the first treatment, but when we consider that she had been carried along for nearly three weeks without any convulsions and that her convulsions followed so very promptly the cessation of medication, are we not justified in assuming that the medication had some favorable influence on her condition? I claim that it is beyond human possibility to foretell what would have occurred had medication been continued or that the convulsions were due to or even hastened by its withdrawal. Not even if we had two cases alike, one treated by alkaline laxative and lithia, the other treated by milk diet and rest in bed could we determine its true value; it would take a series of cases, but every case should have the benefit of treatment and if it fails we are none the worse off for having tried it. I have seen this treatment prove successful in other cases of albuminuria of pregnancy and yet the drugs used in the above treatment would make a poor showing in pharmacological tests.

Not alone has this nihilism led to abandonment of therapeutic effort, but the ig-

norance produced by it has made cowards of many; afraid to use drugs with which much good can be accomplished, abandoned because when unintelligently used they have caused cardiac depression. Conditions in which these are powers for good are treated by procedures that are barbarous and cruel. I have in mind the neuralgias of the sciatic nerve. Without going into the etiology of these, let us look at the various treatments—actual cautery, acupuncture and injections of absolute alcohol. The first two I have tried with varying success. It is in just this condition that the coal tars give the best results. To the intelligent therapeutist their depressing effect on the heart is nothing more than a bogey, for he knows well how to take care of that. Their use is certainly less barbaric than the other methods mentioned and the results compare very favorably.

Another reason for this therapeutic scepticism, lies in the fact that often remedies and methods are not described with sufficient detail, such as dosage and contra-indications; what we might call therapeutic technic is neglected; to my mind this technic is a very important matter. Again on the other hand, we find where a good observer reports his results, exposes in minute detail the rules which he has followed; all this is ignored, swept aside and combinations in direct violation of what his experience has taught him are used. As a result of this he is discredited. An instance of this is to be found in the recalcification and phosphorizing treatment of tuberculosis. This treatment is now receiving considerable attention in European scientific centres, but it is after all only a revival of what Churchill taught in Paris in 1843. Today they use the glycero-phosphite of calcium, he used the calcium hypophosphite, and personally I believe the latter has the advantage. What happened to Churchill's work? Few took the time and trouble to study and digest his carefully recorded observations.

Nor is the above the only example of old therapeutics being fitted with a new suit of clothes, rebaptized and introduced to us as something new. Dry cupping, formerly much used, fell into disuse, then it was resurrected, given a scientific explanation and baptized, "passive hyperemia" by Bier. Today we know that the old doctors were not wrong when they believed that good came from dry cupping even if they did not have a scientific explanation of how it acted. Without any knowledge of leucocytosis or passive hyperemia, the African savages use cow horns for cupping. Winternitz popularized cold water and its use upon a scientific basis, but how many even today are ignorant of its correct use, thinking that the efficacy lies solely in the temperature, use ice instead and by this ignorance do more damage than good.

We cannot all be originators, but we can all do an immense amount of good to suffering humanity, if we will be content to faithfully and implicitly carry out in every detail, methods of treatment that master minds in our profession have devised and found beneficial. Only when we have become letter perfect, so to speak, in the technic of these, and thoroughly able to appreciate their effect, should improvements be allowed to suggest themselves. Even then we must go very slowly, ever bearing in mind Shakespeare's wisdom, that in "striving to do better, we oft times mar what's well." Let us study therapeutics carefully, and conscientiously, not simply to help us out of a temporary predicament in a given case, but study systematically with a view to a better and more perfect knowl-

edge of our weapons and the uses to which they may be put. The number of capitals and titles behind the name of a writer signify less than does the fact that in what he writes, he shows he understands what he is writing about, and so presents it that we can consume and assimilate it. Dr. William Welch, in an address on Jan. 10th, 1911, said he believed that the future progress of medicine was destined to be along the line of therapeutics, but while waiting for the new discoveries he had in mind, let us seek to become skilful with the old weapons now at our disposal.

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ARSENIC.

A Summary of Historical Poisonings.

BY

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So much has been said of late in medical circles and in medical literature concerning the newly discovered remedy "606," salvarsan, that a summary of the historical data of arsenic, the principal ingredient of this well-known chemical compound, the "Di oxy di amido arseno benzole," will prove interesting, I believe, to the readers of AMERICAN MEDICINE.

While to many the matter will seem perhaps like rehearsing old stories, still the question is important enough and attractive enough to justify its retelling. Although, as doctors, we are not wantonly careless in handling drugs of this class, still, by continued use, our attention is inclined to be withdrawn from their possible evil effects. It is only when specific examples of the harm they have caused are brought forcibly to our notice that we stop to reflect.

In relating the history of arsenic as a poison, it is unadvisable, I judge, to dwell upon the suspected poisonings of antiquity. These, to say the least, are somewhat mythical and have been greatly exaggerated and embellished as they have been handed down to us through the centuries. It is certain, nevertheless that the Hindus, as far back as 90 B. C., were acquainted with the drug. They knew white arsenic as "Sanchya" and, according to Royle, it was they who first prescribed its use internally. Likewise, the "Sum-al-Far" of the old Arabs was what we now designate as white arsenic.

Dioscorides (40 to 60 A. D.) in his treatise on drug classification applied the name "Arsenikon" to the yellow sulphuret. We read also in the last two books of the Babylonian Talmud of "Sam," the name given to arsenic by the Hebrews. But, not to delay longer with the ancients, we shall confine ourselves in this article to some of the more notable cases of arsenical poisonings for which we have positive data that can be authoritatively referred to by the reader, if he so desires.

While the world endures, the iniquities of decadent Rome under Nero will retain their preeminence in infamy. During his reign, the crime of poisoning was rife. His notorious dispenser of poisons, Locusta, well understood the properties and the preparation of arsenic. She it was of whom Tacitus with grave irony speaks as "Diu inter instrumenta regni habita"—for a long time preserved as an instrument of the monarchy. It is still a mooted question, however, whether or not she used it as a means of dispatching Brittanicus and Claudius. Yet, the symptoms, as related in the old authors, correspond in the main to those of our modern arsenical poisonings.

In the fourteenth century, we know that arsenic was a favorite instrument of the professional poisoner, and that it was known to and used by the habitues of the courts of England and France of that period. The following very interesting historical document prescribes its use in France by the king of Navarre, Charles de Mauvais. In it we read of a command given to one of his subordinates, Woudreton, to poison Charles the Sixth and the Dukes of Valois, Berry, Burgundy and Bourbon. It reads as follows:

"Go thou to Paris; thou canst do great service if thou wilt; do what I tell thee; I will reward thee well. Thou shalt do this. There is a thing which is called sublimed arsenic. If a man eat a bit the size of a pea, he will never survive * * *. Take it and powder it; and when thou shalt be in the house of the King, of the Count de Valois his brother, the Dukes of Berry, Burgundy and Bourbon, draw near and betake thyself to the kitchen, to the larder, to the cellar, or any other place where thy point can be best gained, and put the powder in the soups, meats or wines, provided thou canst do it secretly; otherwise, do it not."

Woudreton was detected and executed in 1384. (Tresor de Chartes, Vol. IX, page 384.)

This is a good example of the use of arsenic as a poison in the fourteenth century. Two great criminal schools arose from the moral chaos of the fifteenth and sixteenth centuries in Venice and in other parts of Italy, when even the state itself sometimes approved of secret assassination by poison. Foremost in the use of drugs thus used was arsenic. We have a mass of reliable data relating to these Italian poisoners. They became famous for their knowledge of poisons as well as by the notoriety which came to them from their associations with the fiendish Tofana. She was the inventress of one of the most destructive and most subtle poisons of the period, "Aqua Tofana."

This famous murderess, a Sicilian by birth, in her early years had resided at Palermo, where she was known to have delved into the secrets of poisons. Later, she went to live in Naples and, by the exercise of her gruesome profession, she made such a name for herself that history will never forget it. This woman's poison, the Aqua Tofana, was distributed by her especially to young married women desirous of ridding themselves of their spouses. The better to conceal the nature of her potion, she put it up in small vials marked: "Manna of St. Nicholas of Bari," which she ornamented with an image of the saint.

Quickly, the fame of this drug spread to Rome. The ladies of the Imperial City availed themselves of its use to get rid of obnoxious husbands or to make way for others more acceptable. In 1659, so many young husbands died in Rome, that an investigation was started by the authorities of the city which resulted in the discovery of a society of young matrons banded together for the purpose of poisoning their husbands. These women were under the regency of one Hieronyma Spara, a pupil of Tofana. How well they succeeded in their nefarious task is shown by the records. Spara and many of her society were put to death after confessing, under torture, to numerous crimes.

In a letter to Hoffman, Garelli, the physician to Charles the Sixth of Austria, writes that his sovereign informed him that while Governor of Naples, during the trial of Tofana, he had an opportunity of

examining the documents of the case and that he found from them Aqua Tofana to be crystallized arsenic in water. (Hoffman's *Medicina Rationalis Systematica*, 1-198.) The symptoms of the poisoning by this solution as recorded by Hoffman correspond in detail to our later day symptoms of arsenical poisoning.

From Italy, this poison found its way into France where, in 1670, we find another era of secret poisoning by arsenic. This time its perpetrator was not one of the lower class but an intimate of the court of Louis XIV, Maria Margaret, Marquise de Brinvilliers. An educated daughter of the Captain of the Court Guard, married to an over-indulgent husband who would not suspect her fidelity, she fell a ready victim to the wiles of a villainous soldier, Jean Baptiste de Gauden, Seigneur de St. Croix. While incarcerated in the Bastille, he was taught the preparation of poison by a state prisoner named Eli. (*Seircle de Louis XIV, Voltaire*). After his release from confinement, he took to professional poisoning as a means of filling his coffers with gold. The subtilty and extreme fiendishness of his assassinations were little less than diabolical, and we cannot but think how well deserved his punishment was when we read that he was killed instantly by the fumes of a poison he was preparing. His domination over the Marquise seems to have been absolute, and we learn from her history that she became a zealous accomplice and an adept pupil of his wickedness.

Among St. Croix's goods confiscated by the State was found poison enough to kill the entire community, together with many documents incriminating the Marquise, who fled to England to escape arrest. After she had been enticed back to France, she was put on trial, was convicted, and on July 16th, 1676, was beheaded for her crimes. Among her papers was found one giving a most complete confession of her criminal actions. In it she admits the most revolting misdeeds. Not content with killing her entire family to gain funds with which to meet the extravagant tastes of her paramour, she even went so far as to assume the habit and duties of a nun; so that she might, under the protection which that dress afforded her, administer her poisons to the poor and to the afflicted at the Hotel Dieu simply to tell the strength of her concoction. The drug used by these two heartless monsters was arsenic, for among St. Croix's chattels was also found a very strong solution of it. As arsenic is tasteless it was the only one that could have been used without detection.

Coming down to our own times, a review of the more notable cases in our courts of law will show how wide-spread and devastating are the workings of this drug on human life. Subtle and masked as are its manifestations, still they are none the less fatal. Thus do we find in the history of arsenic, a record of extremes. In the opening chapter, it is presented to us as an instrument of death, claiming its victims with the rapacity of a plague. Gradually, as medical science advances, we find it becoming more docile and, under the wise direction of experience and learning, we see it making valiant efforts to atone for its disastrous past. The scourge of yesterday has become the blessing of today and we can only theorize on what the morrow will find it, a panacea, perhaps, for many ills.

But even now a keen ear may distinguish discordant murmurs mingled with the songs of praise. The joy that greeted the advent

of that specific, "606," which is to exterminate one of the most malignant evils that flesh is heir to, is still at its height and yet the question is asked: "Is not the cure worse than the disease?" Absurd as this may appear at first sight, the profundity of the enigma offers a reason for the lack of enthusiasm in certain quarters in this, the latest triumph of arsenic.

Syphilis as we know, is very often the result of the violation of a moral law. This fact and this alone, is, in many instances, the influence that restrains men from having intercourse with prostitutes. Remove this influence, we are admonished, and vice and debauchery will become rampant in the land; the laws of God and man will fall upon ears deafened by lust; virtue will be but a memory and the orgies of ancient Greece and Rome will be eclipsed by the satiating of unbridled passions when no resulting physical evils need be feared.

It is unquestionably true that the fear of contracting or propagating syphilis often exerts a salutary influence over the conduct of men. Yet, must we on this account neglect a present very grave physical evil from which thousands of innocent persons are suffering, in order to provide against a probable moral one? Cannot the moral evil be prevented or at least very much diminished by other means? Must we abolish an almost certain cure for fear that it will lead to an abuse?

But I am infringing upon the province of ethics and must retreat before I become involved in the discussion of a thesis which after all is foreign to the purpose of this article.

SURGICAL HINTS.

Persistent tachycardia should indicate a search for other evidences of hyperthyroidism. A goiter is not essential to the diagnosis.—*American Jour. of Surgery.*

CAPSULES THAT DO NOT DISSOLVE IN THE STOMACH AND CONSEQUENTLY PREVENT GASTRIC DISTURBANCE.

BY

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For many years it has become necessary quite frequently for me to discontinue the use of some valuable drug on account of the gastric irritation produced and the disagreeable eructations which followed its administration. It occurred to me that if capsules could be so prepared that they would resist the gastric juice and yet dissolve promptly in the alkaline pancreatic secretion this disagreeable feature might be obviated. A study of the literature upon the subject revealed the fact that, while some work had been done along this line for diagnostic purposes (Sahli), no one had perfected such a capsule that would keep without becoming so hard with age that it would not then dissolve at all in the intestines. Keratin coated capsules withstand gastric secretion but soon become much too hard. I found that a coating of mutton suet and paraffine upon the capsules would prevent their bursting in the stomach and that they were readily dissolved in the intestinal juices, but I was informed by manufacturing drug houses that it was not practicable to apply such a coating and besides it was likely to become rancid with age. I then tried various methods of hardening gelatine capsules and after many tests and trials succeeded partially in obtaining the proper kind of a capsule by slightly hardening the gelatine with formalin. Before proceeding further I was anxious for a test that would prove beyond doubt that the capsules would not dissolve in the stomach. A gastrologist suggested

that such a test would be the administration of a capsule containing methylene blue and the passage of a stomach tube at the end of three or four hours when the gastric contents would show by their color if the capsule had dissolved. Not being desirous of having the stomach tube passed and having no patient upon whom I wished to impose such a hardship, I decided to tie a silk string carefully around one of the capsules and swallow it, and withdraw it at the end of three hours. While not among the most pleasant things to do, the test repeated on several occasions proved that the capsules would resist the gastric juice as they were withdrawn intact. Proof that they dissolved in the intestines was the appearance of blue urine about four to six hours after their administration.

Though this preliminary test seemed encouraging there were other factors to be considered, such as undue hardening with age and the procuring of uniform capsules mechanically perfect. Having carried out my idea as far as I could go I explained the fact to Schieffelin & Co., a reputable chemical house of New York, and requested their assistance and cooperation, which was willingly and courteously granted. After more than two years of laboratory tests and various modifications in the capsules and methods of preparing them they, at last, supplied me with some made of formalized gelatine that were almost perfect under normal conditions of the stomach. The greatest trouble was to make capsules that would comply with both requirements, that is, be unaffected in the stomach, but dissolve in the intestines. Some at first thought to be perfect from a laboratory standpoint were found to pass through the patient without dissolving at all. By a series of clinical tests, I would check up the experiments in the laboratory to determine if the capsules would work properly, and finally they have been almost perfected. I say almost, because if a patient has gastric motor insufficiency and the food remains from six to twelve hours or longer in the stomach the capsules will burst probably before they reach the intestines, or if given with a purgative they may pass through undissolved. Otherwise, they are very satisfactory and often patients tell me that while they cannot take oil of sandalwood, etc., because it greatly disturbs the stomach; they rarely experience discomfort if it is given in these "formalized" capsules.

They have also prepared pills by the use of suet and wax with a coating of formalized gelatine which prevents such remedies as salicylate of soda and potassium iodide from irritating the stomach. Potassium iodide seems more effective when given in this manner than when administered in solutions.

SURGICAL HINTS.

Smoky appearance of the urine is not always indicative of a renal origin of the hematuria. It may be due to an oozing surface in the bladder, as a villous growth, in consequence of which small amounts of blood become mixed with and decomposed by the urine.—*Inter. Jour. of Surgery.*

Perforating ulcers and localized gangrenous processes in one or both feet, without other obvious cause (e. g. tabes, diabetes, obliteration of bloodvessels, frost-bite) indicate a careful examination of the spine for an evident or concealed spina bifida.—*American Jour. of Surgery.*

In an injury to the elbow gentle palpation and study of the relations of the bony landmarks—the olecranon, the condyles, the head of the radius—is very often quite sufficient to establish a diagnosis without painful manipulation.—*American Jour. of Surgery.*

REPORT OF A FATAL GUNSHOT INJURY OF THE ABDOMEN.

BY

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Late in the afternoon of May 26 last, a man of temperate habits, five feet ten inches tall, weighing 155 pounds, about 30 years old, was shot at point blank range with a repeating rifle generally known as a 45:70 (forty-five calibre, charged with a shell carrying a soft lead bullet weighing 405 grains, propelled by the equivalent of seventy grains of black powder). The bullet entered the body through the clothing one inch above and half an inch to the left of the navel, emerging about an inch below the crest of the left ilium. During its passage through the abdominal cavity it did irreparable injury to the stomach and intestines.

Drs. D. H. Galloway, W. W. Phillips, O. R. Haymaker and I were called to attend the wounded man. The patient was rapidly removed to St. Mary's Hospital. Upon removing his clothing we found a large bunch of omentum protruding through the wound of exit. Through a three-inch median incision a jagged wound in the anterior wall of the stomach, near the greater curvature, was sutured. The general cavity of the abdomen was full of fluid blood. Many clots were removed during the course of the operation. Some six or more perforations were located in the ileum and were closed with the sutures. The sigmoid flexure was blown away for the space of two inches and the divided ends were brought together in the usual manner. Free drainage was instituted. Considerable folds of lacerated omentum were removed.

The patient was removed from the operating room in a critical condition and died twelve hours after the receipt of his injury. The post operative treatment seemed to have little or no effect. The mind was perfectly clear till within a few moments of the end.

RECTAL POLYPI IN CHILDREN.

BY

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Polypus of the rectum is a most common disease. Bleeding from this source is quite frequent, and when associated with diarrhea is very apt to be overlooked. There is tenesmus produced by the partially protruding polyp. It may be grasped between the sphincters, which forces the escape of blood if eroded. Care should be exercised in all cases of protracted rectal bleeding to examine for either polypi, fissures in ano, hemorrhoids, or ulcers.

Rectal polypi are pedunculated rounded tumors varying in size to a hazel nut. These tumors are myxofibromatous or adenomatous in character and sometimes are found in large numbers; usually they are found just inside of the internal sphincter anteriorly, but may be much higher up in the rectum or sigmoid flexure.

Symptoms.—Besides the loss of blood, polypi cause irritation, tenesmus and often a mucous discharge. Prolapse of the rectum often follows the constant effort at expulsion.

Polypi in the rectum are always pedunculated, excepting when very small, and they are easily recognized with the finger.

Treatment.— The pedunculated form is best treated by twisting off and cauterizing the base, if done under an anesthetic. Ligation is easier and safer, if the ligature is not too fine and if the tightness is not so great as to cut through the pedicle earlier than a few days. Bleeding from the stump is quite profuse if the ligature slips or cuts through before granulations begin, and a word of warning is here not amiss.

Should the rectum be the seat of a large number of these growths, irrigation with a five or ten per cent. solution of Krameria or witch hazel is more suitable than the above treatment.

The irrigation should be done through one of the double current irrigators made for that purpose and at a temperature of 100 deg. F. A pint or more of the solution may be used at one time, if care is exercised to have the fluid return readily. After a few weeks there is generally a marked improvement, and as the associated inflammation subsides, the irrigation may be lessened to three times a week.

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Introduction of Labor at Term as a Routine Procedure—Wright says that labor should be induced in all cases within two or three days of the expected date of confinement without waiting for any of the signs of labor. The vagina should first be plugged by the Schauta method, the vault being packed as tightly as possible. After the vagina has been packed the patient may go about freely, if she so desires. The tampon should be removed in twenty-four hours, a new one introduced, and the patient again allowed to go about. The second tampon should be removed at the end of another twenty-four hours. If labor has not begun it will then be desirable to pass a bougie into the uterine cavity before placing a third tampon. In the author's experience labor has always begun after this treatment. In many of the cases the use of the bougie will not be required.

ETIOLOGY AND DIAGNOSIS.

A New Diagnostic Sign in Tuberculosis.— C. L. Wheaton (*Jour. A. M. A.*) calls attention to a new sign which may be of diagnostic value in pulmonary tuberculosis. In these cases, when the skin was pulled away from the fascia over the affected area, it was freely movable, and not adherent to the muscle-fascia. This was especially noticed in cases of early unilateral involvement, and proved to be so only on the side affected by tuberculosis. It was more pronounced over the original area of infiltration. Occurring on both sides, it indicated bilateral involvement. On the affected side the skin could be drawn from the chest-wall with ease, as compared with the other side. The skin was also thinner than that upon the sound side.

Differential Diagnosis between Acute Anterior or Acute Posterior Urethritis.[1]—Obviously, as Hayes says, in the treatment of the gonorrheal process, the first principle to determine is what part of the urinary apparatus is affected before any logical treatment can be inaugurated. Thompson's two glass test is sufficient, under ordinary circumstances, in the very acute stage, but not so in the advanced stage when the secretion of pus is less. Many tests have been used to determine this point. I shall give you the technique of the four glass test, which is sufficiently accurate to separate the debris from the anterior urethra, the posterior urethra, the prostate and bladder. It is simple of execution, and is performed in the following manner:

Glass 1. The anterior uretha is washed out carefully until the water returns clear. This gives us the contents of the anterior urethra.

Glass 2. If a soft catheter is introduced and some of the bladder contents are drawn off into glass 2, this gives us the bladder urine.

Glass 3. The catheter is now withdrawn and the patient passes a small quantity of urine into glass 3. This gives the debris washed from the posterior urethra.

Glass 4. The prostate and vesicles are then carefully massaged and stripped, and the remaining urine is passed into glass 4; this gives us any pus that may have been expressed from the prostate by massage.

This four glass test is sufficiently accurate to determine whether the pus has its origin in the anterior urethra, posterior urethra, bladder or prostate; whether in one alone, more than one or all combined. Of course, this test is not to be used in the acute stage, but is highly applicable in the sub-acute and chronic stages.

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[1]D. J. Hayes, M. D., Milwaukee, Wis., *Amer. Jour. of Dermatology*, June, 1911.

The Etiology of Pancreatic Diseases.[1]—Davis states that function determines the form of tissue structure. The duct of Wirsung would have certain advantages if it were not for its nearness to the outlet of the bile, which is so easily infected from the intestine. A sketch of the anatomy of the pancreas is given. The position of the gland in the abdomen is well protected against injury. The large proportion of cases of pancreatic disease of infective type are due to its association with the common bile duct. The four pancreatic enzymes are able to digest all forms of food. The nerve supply is from the vagus and sympathetic. In studying the etiology of pancreatic diseases the author regards the subject from two viewpoints; the pathology of the gland exclusive of the islands of Langerhans, and the pathology of these islands. The causes of lesions of the first division are circulatory disturbances caused by trauma and anemia, inflammations due to bacteria, alcoholism and fat necrosis. The islands constitute a separate structure and their function is due to the production of an internal secretion. Diabetes is the most common disease involving them. In some cases at autopsy these islands are entirely atrophied; in others they are unchanged. Diabetes may result in three ways; by failure of duodenal secretion, failure of excitation of the cells of the pancreas, and changes in other tissues of the body. Functional tests of the pancreas are of value in the diagnosis of diabetes. Failure of albumin, fat and carbohydrate digestion is as important to recognize as failure of carbohydrate metabolism.

TREATMENT.

Nausea of Pregnancy.—Fonde, of Mobile, Ala., advises, says the *Medical Standard*, that when the patient has reached the stage of nausea with the irritated stomach and congested liver with food stasis and beginning constitutional injury, the preliminary administration of small doses of a combination of calomel, nux and ipecac, and for a short time, simple antacids, such as oxide of magnesia with perhaps some slight sedative, will be necessary. In all cases some simple laxative, as cascara, will be needed generally throughout pregnancy.

The author's experience with the Lenharz treatment for peptic ulcer, some of his cases being actively bleeding and causing intense pain, rapid pulse and a generally bad outlook, caused him to use a modification in cases of nausea of pregnancy:

1. Rest in bed, ice pad over stomach; the object being to bring about general rest, and especially of the dynamic an secretory action of the stomach.

2. Skimmed, sweet milk containing a tablespoonful of lime water to the goblet; two tablespoonfuls at each feeding to be given every hour, the patient to be given food from a teaspoon and not allowed to feed herself. The milk is to be packed attractively in ice and administered from this package, cold. Each day the quantity is increased by two intervals in feeding at night. By this increase it is but a short time before the patient is getting three or more quarts of milk a day. In the Lenharz diet, on the third day raw eggs are stirred in the milk and thereafter on every third day an additional article of diet is added until the patient is given much more food than is needed for the average workman; with the result that the general strength and weight together with greater resistance of the patient to all morbid conditions obtains, especially those of the nervous and functional type, as we have in the nausea or toxemia of pregnancy.

As the frequent administration of milk may not be carried on after bed time, the author is accustomed to order then the familiar prescription of hyperchlorhydria, composed of calcined magnesia and extract of belladonna, with at times a little subcarbonate of bismuth, to promote rest over night from secretions and acidity in the stomach.

The frequent administration and accurate measuring of milk will generally be found unnecessary after several days or a week, when the patient's general tone and nutrition have improved. Many of the patients will be strongly prejudiced and even convinced that sweet milk hurts them most of all articles of diet; but when it is explained that milk taken in the ordinary way in an excessively acid stomach forms a large, tough bolus which causes their great distress mechanically and by provoking still further overflow of acid secretion, and that the gradual and minute quantities will logically avert the distress, a trial will promptly overcome the objection and the explanation will have a suggestive effect always valuable in functional and nervous disorders.

General hygienic measures and agreeable occupation, when permissible, are not neglected.

Epithelioma of the Skin.[1]—The therapeutics of cancroids of the skin have been considerably modified since the employment of the X-rays. Certain counter-indications, however, exist to this treatment—the large extent of the lesions, existence of voluminous glands, rapid evolution of the epithelioma, and small torpid epitheliomas.

Cutaneous epithelioma may be either superficial or deep. The former only may be treated medically with some chance of success.

Applications of chlorate of potash are of value, but this drug is very painful.

Prof. Gaucher employs:

Chlorate of potash	1 dr.
Talc powder	1 dr.
Vaseline	1 oz.

But the best methods of destroying the neoplasm are three in number—actual cautery, potential cautery and curettage.

[1]James R. Davis, M. D., *Med. Record*, May 13, 1911.

[1]*Med. Press and Circular*, May 31, 1911.

The actual cautery, or ignipuncture, is employed in superficial and limited epithelioma. Caustics should only be used where the ulceration exceeds the size of a shilling piece. For several days beforehand the parts should be cleaned and asepticized by means of compresses kept moist with some antiseptic solution. The chemical caustics generally preferred are arsenic and chloride of zinc.

Arsenious acid	5 gr.
Orthoform	30 gr.
Alcohol	5 dr.
Water	5 dr.

After rendering the surface of the ulcer as raw as possible, apply with a brush the above solution each day until the crust becomes black. When the crust has fallen off, the place is washed with oxygen water and dusted with the following powder:

Cinchona powder	2 dr.
Iodoform	2 dr.
Benzoin powder	2 dr.
Carbonate of magnesia	2 dr.
Ess. of eucalyptus	½ dr.

The application of cautery in paste (chloride of zinc and flour mixed in a little water) should be made only for a few minutes. A piece of sticking-plaster with a hole of the size of the ulcer should be first applied to limit the action of the caustic.

Curettage of the ulcer presents the same inconvenience as extirpation by the bistoury; it opens the vessels, thus favoring inoculation.

On the other hand, the modern method by the X-rays renders great service and gives brilliant results.

The Treatment of Thrush.[1]—In mild cases of thrush, our first care, says Dr. Eustace Smith, should be to remedy the temporary gastric derangement which has allowed the parasitic growth to effect a lodgement on the mucous membrane. The diet must be modified consisting principally of nutritious, easily digested food, and if the bowels are relaxed, the looseness must be arrested by suitable treatment. If not relaxed, they should be acted on by a dose of rhubarb, with a grain of grey powder. Afterwards, a draught containing a few grains of carbonate of soda, with an aromatic should be given three or four times a day. If there is nausea, the stomach should be cleared out by a teaspoonful of ipecacuanha wine, or by a minute dose of apomorphia: gr. 1-60 to 1-30; administered hypodermically. A valuable medicine in these cases is a mixture of glycerine, carbolic acid and tincture of iodine, half a drop to a drop of each, given every four hours in a teaspoonful of water sweetened with glycerine. The influence of this remedy in clearing quickly away even an extensive coating of thrush is often surprising.

Fresh air is of extreme importance. If the weather is suitable, the child should pass much of the day out of doors; and especial care should be taken that his sleeping chamber is sufficiently ventilated, and that soiled linen is not allowed to remain in the room.

With regard to local treatment; perfect cleanliness is indispensable. Directly the infant has taken the bottle, his mouth should be swabbed out with a piece of soft linen rag, or a large camel's-hair brush, moistened with warm water. Afterwards, the whole of the interior of the mouth should be brushed over with glycerine of borax. If this treatment be repeated after each meal, it will not be long before all signs of the fungus have disappeared.

In the more severe examples of the complaint the same local treatment must be employed. If the fungus be suspected to have passed into the gullet, the child may be forced to swallow a few drops of the wash diluted with water. If superficial ulceration be seen, ten drops of sulphate of zinc may be added to each ounce of the wash, for use as an application to the mucous membrane. In the worst cases, where the parasitic coating is widely spread, the deposit must be removed by painting it with three or four grains of papain mixed with glycerine, and then treating the uncovered surface with a solution of resorcin (five to twenty grains to the ounce of normal saline). The chief difficulty in these cases is to improve the child's nutrition and increase his strength. If the patients are in a position to supply a wet nurse, this method of feeding should be adopted at once. If the child is forced to trust to the bottle, ass's milk is preferable to that of the cow. It should be thickened with barley water. White wine whey is a valuable resource in these cases, and if the infant be much reduced in flesh and strength, with small digestive power, he may subsist upon it entirely for the first few days. A dessertspoonful of fresh cream shaken up with each bottleful of the whey, makes it more nutritious, and is a very digestible addition to the meal. In all cases, the internal treatment will depend upon the accompanying conditions, and especially upon the nature of the illness in the course of which the local complaint has appeared. Often the child is the subject of chronic intestinal catarrh. This must be treated as directed elsewhere (see diarrhea). If the purging is moderate, and there is no reason to suspect the presence of ulceration of the bowels, much benefit may often be derived from a powder containing one grain of rhubarb, with one grain of powdered bark, and three grains of aromatic chalk, given two or three times in the day.

Fresh air, with warmth to the belly, and the most perfect cleanliness, not only to the child's body and linen, but also of all spoons, cups, feeding bottles, etc., used in his nursery, are essential to his recovery.

Sun-stroke.[1]—The unusually prolonged heat-wave of great intensity that has recently afflicted North America, and which is at present threatening England and some of the European countries, renders it not amiss to consider

[1]Eustace Smith, M. D., *Pediatrics*, June, 1911.

[1]Editorial, *The Lancet*, London, July 15, 1911.

briefly the various theories advanced in explanation of the deleterious action of the sun's rays on man as well as the methods of their prevention. The sun may excite the forms of injurious effect known respectively as heat-collapse and heat-stroke. Heat-collapse is not usually a severe condition. The patient suddenly turns giddy and falls; his skin is moist and cool; his breathing hurried but never stertorous; his pulse small and soft; his pupils dilated; his temperature remains at, or falls below, the normal; whilst there is no complete loss of consciousness as a rule. Recovery generally ensues when the patient is taken into the shade, his clothes are loosened, cold water is dashed on his head, and ammonia held to his nostrils. Far different, however, is it with heat-stroke. This may be either direct or indirect. In *direct* heat-stroke, or sun-stroke, the attack may occur in more than one form. In one form the persons affected are mostly more or less untrained to severe exertion, as, for instance, young soldiers newly arrived in a hot country and unaccustomed to the fatigues of marching, and it is especially likely to affect them when the air is moist, so that the skin action becomes diminished. Violent headache is first complained of; the march, however, is still continued, until the patient at length falls down in convulsions, with teeth firmly clenched, insensibility absolute, dyspnea, small and weak pulse, and often incontinence of urine. In a second form the subject, streaming with sweat, becomes progressively paler, with cyanosed lips, injected eyes, swollen veins, respiration shallow and quiet, until he slips to the ground. Consciousness is not, as a rule, entirely lost, and revival occurs if the patient be relieved of all impediments to free respiration. In yet a third form the subject becomes extremely thirsty, without any feeling of fatigue, and suddenly falls down comatose. The state of coma may last from 24 to 36 hours and may end in death without any recovery of consciousness. Lastly, in a fourth variety, the soldier, after a hot and wearying march in the sun, is seized with a racking headache, which hourly becomes more and more intense, so that within 24 hours he may be rolling about in agony from the terrific pain in the head. Soon great intolerance of light sets in and then unconsciousness. Should the patient not die, the intense pain in the head on return to consciousness may last for six or eight weeks unrelieved by any drug, though showing slight evening remissions. It then gradually abates. In the indirect form of heat-stroke the individual is attacked indoors. He becomes pale and nauseated; has colic and incontinence of urine. Convulsions follow, to be succeeded by cyanosis, dyspnea, and insensibility, with stertor and contracted pupils. The temperature may run up to 110° F., remaining high for some time after death.

Such are briefly the various ways in which an individual may be attacked by the sun. To consider next the various theories advanced of the causation of heat-stroke, we have first the *caloric* theory, which attributes the attack to the action of intense heat *per se*. It is supposed that the intensity of the heat disturbs the regular action of the heat-regulating centres of the body. To this, however, it must be objected that stokers of the steamships in the Red Sea are scarcely ever affected by the heat of the furnaces. Next, there is the *autotoxic* theory, according to which the high temperature causes the blood to become poisonous to the nerve cells, especially those of the vasomotor centres and cardiac ganglia. Then we have the microbic theory of Dr. L. Sambon. This theory can hardly be sustained, at any rate so far as India is concerned, according to most observers in that country. Dr. Sambon states that as regards geographical distribution, the endemic area is limited to the lowest region, coast districts, and valleys of great rivers. Now Colonel J. A. Cunningham, I. M. S., has shown that the very lowest rates for heat-stroke are given by the Burma Coast, the Bay Islands, and the West Coast of India, the lowest regions of the 12 geographical districts into which India is divided for statistical purposes. Again, the author of the theory asserts that, with regard to the meteorological conditions, the disease does not especially coincide with the hottest days. The statistical tables of India, however, show that the greatest mortality from heat-stroke exists in the Punjab, Scinde, and on the North-West Frontier—the hottest parts of India. Lastly, this supposed microbe has not yet been seen. True, Cagicol and Lapière have described one, but their observations lack confirmation. Stiles, of Edinburgh, by injection experiments, seems to have excluded the presence of any toxin.

The view that, in our opinion, best accounts for heat-stroke is the actinic theory of Colonel F. Maude, R. E. This distinguished officer had suffered from several attacks of sun-stroke, when he conceived the idea that the rays of the sun which caused such attacks were not the heat rays, but the actinic rays situated at the other end of the spectrum. It occurred to him that if he lined his helmet with red to cut off these chemical or actinic rays (just as the photographer lines his dark-room with red for the same reason in developing), he would obviate the disastrous effects of the sun. He tried it, with the result that for many years he experienced no further ill-effects from the sun. An officer who did not believe in the theory, however, one day surreptitiously abstracted the red lining from Colonel Maude's hat as he was about to expose himself to the sun, with the result that Colonel Maude again suffered from sun-stroke, and experienced great chagrin at the supposed failure of his theory until the repentant officer told him what he had done. Another officer, who had previously suffered on three occasions from sun-stroke, causing him to be invalided for nearly five years, also lined his helmet with red, with the result that as each succeeding hot weather season came round he was enabled to live without any discomfort from the sun, although he had previously suffered severely from headaches. The plan of lining the head coverings with red or orange flannel, therefore, certainly seems to deserve a

more extended trial. As regards diet, moderation must be practised both with meat and drink. The late Surgeon-General W. C. Maclean, unquestionably an authority on tropical diseases, used to warn his class at Netley against the eating of meat more than once a day in the tropics. Alcoholic drinks should never be taken by those exposed to a hot sun. The best beverages are tea and coffee, the good effect of which will be easily understood when we remember that the sun's action diminishes the activity of the skin and lessens that of the nervous system, diminishing the excretion of carbonic dioxide and inducing cardiac paralysis, whereas tea and coffee have precisely the opposite effects.

How Best to Measure for Shortening of the Femur.

The way regularly taught is a mistake, says Dawbarn—measuring, that is, from ant.-sup. spine of ilium to one or other malleolus tip; a mistake because we should never measure over a needless distance. In this case we add to the problem (and without being obliged so to do) the possible difference in the length of the two limbs below the knees. There are three better methods: (1) Measure from the anterior-superior iliac spine to the adductor magnus tubercle. This is good so far as it goes; it does not, however, measure the entire length of the femur. (2) Measure from the anterior-superior iliac spine to the lowermost point or apex of the patella—drawn up firmly for this purpose. (The level of the knee-joint is the apex of the patella.) (3) The writer's method. Place the patient flat on his back upon any firm surface. Flex both thighs, placed side by side, to a right angle with the body; that is, they are now vertical. The legs, in turn, are flexed to a right angle with the thighs; that is, they are now horizontal. The difference in height of the two patellae will now indicate the exact degree of shortening, if any, of the femur under examination.

HYGIENE AND DIETETICS.

The Diet in Diabetes Mellitus.[1]—Foster points out the great advantage of variety in the diabetic dietary, which can be obtained by frequent variation in the manner of cooking. He gives many valuable recipes which he has gleaned from his patients. The following are a few of the more important:

Soups.—Consommé: 3 pounds of beef from the round, 1 small knuckle of veal, 5 quarts of cold water—simmer four hours; then add 1 pound each of carrots, turnips and onions cut into dice, 1 teaspoonful of salt, ½ teaspoonful of sweet marjoram, ½ teaspoonful of thyme, 1 teaspoonful of peppercorns, 1 bay leaf, 1 sprig of parsley. Simmer one hour, strain, and cool; when cold skim off the fat.

Consommé with Brussels sprouts: To three pints of hot consommé add 2 cupfuls of Brussels sprouts which have been soaked in cold water twenty minutes, and boiled in boiling salted water fifteen minutes.

Consommé with claret: To 1 pint of consommé add 1 pint of claret, 1 pint of hot water; pour 1 cupful of consommé over the yolks of 3 eggs; cook until the spoon is coated; add the beaten whites of the eggs. Mix and serve either hot or cold.

Consommé with cucumbers: To 3 pints of consommé add 2 sliced cucumbers which have been cooked one-half hour in 1 cupful of water. For the cucumbers may be substituted, red or white cabbage, cauliflower, asparagus, cooked meats chopped, or Parmesan cheese.

Tomato soup: Stew tomatoes with butter; strain, and add an equal quantity of consommé.

Jacobin cubes: Beat 3 eggs in a bowl, add some nutmeg and 3 teaspoonfuls of water; place the bowl in boiling water until the mixture thickens; cut in cubes and serve in broth.

For purees, rub through a sieve cooked cauliflower, asparagus, or tomatoes; add to 3 pints of hot consommé and pour over 1 cupful of cream in which 2 egg yolks have been stirred.

Sauces.—Cucumber sauce: Cut up 2 cucumbers in cubes after removing the seeds; stew them in 1 cupful of sour cream until soft. Stir up 1 egg yolk with 1 cupful of cream in a double boiler until it thickens; add this to the cucumbers and heat again; season with salt and pepper.

Sauce Tartare: Slowly stir 1 egg yolk, adding ½ cupful of olive oil, drop by drop, 2 tablespoonfuls of vinegar, also by drops, salt, pepper, 1 teaspoonful of French mustard, and a little parsley. Stir on ice.

Mustard sauce: 1 pound of melted butter, 1 pound of French mustard covered with broth, ¼ teaspoonful of salt, 1 teaspoonful of vinegar. Take off the fire and beat in 1 yolk.

Horseradish sauce: Stir a piece of butter with 2 teaspoonfuls of grated horseradish, add pepper and salt, cover with broth, and boil for one-half hour.

Brown onion sauce: 2 onions chopped and stewed in butter until brown, covered with broth, 1 teaspoonful vinegar, pepper, a clove, a bay leaf, a slice of lemon.

Sauce Bearnaise: Cook in double boiler, stirring constantly, 2 egg yolks, 1 teaspoonful of water, 1 teaspoonful of butter; add one at a time, 4 tablespoonfuls of butter; stir until boiling, and add 1 teaspoonful each of tarragon or plain vinegar, tarragon leaves, and parsley minced.

Tomato sauce: Tomatoes after being passed through a sieve are stewed in butter and covered with broth.

Mushroom sauce: Mushrooms are stewed in butter and covered with broth or gravy. Take off the fire and beat in 1 yolk.

White sauce for asparagus, artichokes, etc.: Mix 1 tablespoonful of butter, 2 yolks, and 1

[1] C. G. Foster, M. D., *Am. Jour. Med. Sciences*, February, 1911.

cupful of cream, cold; cook in a double boiler, beat constantly until thick. Serve immediately.

Spinach pudding: Mix with 1 quart of boiled spinach 4 yolks, add ½ onion, ½ cupful of cream, whites whipped stiff, and ½ cupful of ham cut in cubes. Place the mixture in a well-buttered dish and steam in a "bain-marie."

Baked cauliflower: Place soft cauliflower in an open pie dish; pour sour cream, melted butter, and Parmesan cheese over it; then bake in the oven.

Tomato jelly salad: To one can of stewed and strained tomatoes add 1 teaspoonful of salt and two-thirds box of gelatin soaked and dissolved. Pour into small cups and chill. Serve on lettuce with mayonnaise dressing.

Oatmeal Muffins.—To 2 half-pint-cupfuls of finely ground (coffee grinder) oatmeal add 1 heaped teaspoonful of Royal baking powder and ½ teaspoonful of salt. Mix well, add 1⅓ cupfuls of cold water, and at last a piece of melted butter (or lard) the size of an egg. Beat well for a minute, put in muffin tins, and bake in a hot oven.

Coffee Mousse.—One quart of thin cream; 1 cupful of strong coffee; 1¼ tablespoonfuls of granular gelatin; 2 tablespoonfuls of cold water; 3 tablespoonfuls of hot water, and saccharin to taste. Add the gelatin soaked in cold water and dissolved in boiling water to the coffee. Set the mixture in a pan of ice water and stir until it begins to thicken; then fold in whipped cream; put in mold cover, pack in equal parts of salt and ice, and let stand four hours.

Stuffed Eggs.—Mash up the yolks of 5 hard-boiled eggs with a lump of butter; thicken with Parmesan cheese, 1 raw egg, and some sour cream. Fill the whites of the 5 eggs, tops and bottoms, with this mixture, place in a buttered tin, sprinkle with cream and cheese, and bake in the oven.

Ragout Eggs.—Mash the yolks of 6 hard-boiled eggs with a fork; slice 2 onions and stew them in 2 tablespoonfuls of butter until they are soft, without allowing them to brown. Add the yolks with salt, pepper, marjoram, and nutmeg; stir in a cupful of sweet cream. Garnish the dish with the whites quartered.

Lemon Soufflé.—Stir 4 yolks until they thicken, sweeten with saccharin, add the juice of half a lemon, some lemon rind grated, and 4 whites whipped stiff. Bake for ten minutes.

Wind Puffs.—For 2 wind puffs stir 4 whole eggs, 2 tablespoonfuls of sweet cream, a pinch of salt, and a little saccharin well for half an hour until the mixture is turned into a stiff froth. Pour into two buttered tins and bake in a hot oven for about half an hour. Serve hot with whipped cream.

Fish Scallops.—One cupful of cooked fish freed from bone. Mix with 1 egg, capers, Parmesan cheese, salt, and sour cream. Butter the scallops, fill in the mixture, sprinkle with powdered Parmesan cheese, and bake in oven.

Cheese Soufflé.—Grate 4 ounces of Parmesan and 2⅓ ounces of Swiss cheese. Stir well with 4⅔ ounces of fresh melted butter, the yolks of 8 or 10 eggs, and the whites beaten stiff. Season with ground white pepper and salt. Fill two small porcelain molds, bake slowly for from ten to fifteen minutes, then serve quickly.

Cabbage Soufflé.—Boil white cabbage in salt water. Chop fine, then stew with an onion and 1 pound of minced pork. Beat up 2 eggs with 6 or 8 spoonfuls of sour cream; whip 2 whites of egg; then stir the whole into the cabbage. Fill a buttered tin, sprinkle with Parmesan cheese, and bake in the oven for one hour. Serve with tomato sauce.

Coffee or Orange Charlotte.—One-third box of gelatin; ⅓ cupful of cold water; ⅓ cupful of boiling water; 3 tablespoonfuls of lemon juice; 1 cupful of orange juice and pulp or 1 cupful of coffee, and the whites of 3 eggs. Whip from 2 cupfuls of cream, saccharin to taste. Soak the gelatin in cold water and dissolve in boiling water; strain, and add to juice or coffee; chill the mixture in a pan of ice water; when quite thick beat with wire whisk until frothy, then add the whites of the eggs beaten stiff, and fold in cream. Turn into wet mold and chill.

Spanish Cream.—One-fourth box of gelatin; ¼ cupful of cold water; ¾ cupful boiling water; 3 eggs; ½ teaspoonful of salt; 1 pint of milk; vanilla, 1 teaspoonful, and saccharin to taste. Soak the gelatin in cold water, dissolve in boiling water. Make a custard with the yolks of the eggs beaten, and mixed with salt. Pour on the hot milk, and cook in double boiler until it thickens. Add the strained gelatin water, vanilla, saccharin, and the whites of the eggs beaten stiff. Mix well and turn into a mold wet in cold water. Place on ice until hard.

Boiled Custard.—The yolks of 3 eggs; ½ teaspoonful of salt; 1 pint of hot milk; ½ teaspoonful of vanilla; and saccharin to taste. Scald the milk. Beat the yolks, add the salt and the saccharin, and pour the hot milk slowly into the eggs; when well mixed, pour all back into the double boiler, and stir constantly until smooth and thick, like cream; strain when cool, and add vanilla.

Snow Pudding.—One-fourth box of gelatin; ¼ cupful of cold water; 1 cupful of boiling water; ¼ cupful of lemon juice; the whites of 3 eggs; and saccharin to taste. Soak the gelatin in cold water, dissolve in boiling water, strain, add the lemon juice and saccharin, and set in ice water to cool. Stir occasionally. Beat the whites of the eggs to a stiff froth, and when the gelatin begins to thicken add the beaten whites and beat all together until very light; chill in a wet mold. Serve with boiled custard.

Coffee Jelly.—One-half box of gelatin; ½ cupful of cold water; 1 cupful of boiling water; 3 cupfuls of coffee, and saccharin to taste. Soak the gelatin in cold water, dissolve in boiling water, and strain into sweetened coffee; pour into a wet mold and chill until firm. Serve with whipped cream.

Baked Custard.—One quart of milk; 6 eggs; 1 teaspoonful of salt, and saccharin. Scald the milk. Beat the eggs, add the salt, and sweeten; then add the scalded milk. Strain, add a little nutmeg, and bake about twenty minutes in a dish set in a pan of warm water or in custard cups set in water.

Almond Cake.—Beat ½ pound of butter and 8 egg-yolks vigorously for one-quarter hour. Mix 20 grammes of baking powder, 100 grammes of plasmon, lemon rind grated and the juice of 1 lemon, 1 teaspoonful of vanilla, and ¼ pound of finely chopped almonds, and add to the beaten yolks. Sweeten with saccharin, and lastly fold the 8 whites into the mixture and bake in well-buttered tin for one-half hour.

Chocolate Sauce.—One tablespoonful of diabetic chocolate in a double boiler with ½ pint of milk, and 3 egg-yolks. Stir until it begins to thicken. When cold, add a pint of whipped cream.

Pudding a la Nesselrode.—Stir 5 yolks over the fire with a little water until they thicken; add 7 ounces of finely chopped almonds, 9 tablespoonfuls of cognac, 1 tablespoonful of dissolved gelatin, and 15 whites whipped stiff. Fill into a mold rinsed with water.

Plants in the Sick Room.—R. H. M. Dawbarn, in his series of "Short Talks with My Students" (*Medical Record*), explains the unwisdom of keeping flowers or plants in a sick room at night. Flowers possess three prominent functions in so far as they affect the air about them. First there is transpiration; they give up moisture taken from the soil, wherefore the air becomes humid if many (especially growing) plants are kept in the room. Second there is respiration; plants here act much as do human beings, using up oxygen and throwing off carbonic acid. Third there is photosynthesis, the name given to the action of sunlight upon the stems, leaves and all green parts chiefly; it is the reverse of the result of respiratory activity, as just stated. So long as there is daylight carbon dioxide is taken in and oxygen given off by photosynthesis. Consequently until nightfall functions two and three about balance one another, leaving neither good nor bad results. But during the entire night functions one and two continue their activity, whilst function three is suspended. Function one is not objectionable; but two, without three to balance it, acts (in principle but not in amount) until the return of daylight, just like an additional person breathing in the room, thus leaving a little less oxygen for the use of the invalid. The standing order should therefore be to remove all plants or flowers at night; it is based upon the sound facts of plant psychology.

Alum Baths in Typhoid Fever.[1]—Boggs says that for two years alum baths have been used as a routine method of treatment in the wards of the Johns Hopkins Hospital, with a reduction of 50 per cent. in the incidence of such skin complications as boils, abscesses, dermatitis, bed-sores, etc. The procedure is very simple, and is carried out as follows: One pound (500 grams) of powdered alum is quickly dissolved in a little hot water and added to the tub during the filling. With the average tub of 450 to 500 liters this makes approximately a 1 to 1,000 solution. The cost is about four cents per bath. The patient is bathed in the alum solution just as in ordinary water, and experiences no inconvenience from the presence of the drug. The only noteworthy changes in the skin are a slight increase in desquamation during convalescence and a decided diminution in the incidence of skin complications of all sorts. In these cases the care of the skin is the same in all except for the alum baths. It is not suggested that the alum baths can replace the rigid care of the skin in the ordinary way, but that with them the frequency of skin complications will be still further reduced.

[1]A. F. Boggs, M. D., *Jour. A. M. A.*, Dec., 1910, p. 2124.

GENERAL TOPICS.

The Status of the Midwife.[1]—In an interesting consideration of the subject Darlington concludes that: 1. The midwife as she practises today is a menace to the lives and health of a large percentage of the mothers and infants in the City and State of New York, for it must be borne in mind that the evil is statewide. 2. The existing provisions for training and control are inadequate to meet the situation. 3. Provision for the thorough training as well as control of midwives is an urgent and imperative need. 4. The law empowering the Department of Health to regulate the practice of midwifery is the logical beginning, but will have to be strengthened by the establishment of schools for training. 5. The medical profession should support and uphold the effort which is being made to better the practice of midwifery, which has been so degraded in the hands of women acknowledged to be, for the most part, dirty, ignorant, and incompetent.

The Cholera Situation in New York.—Ten deaths from cholera in New York have been reported to the Department of Health since the outbreak of the disease in Naples up to Tuesday, July 22nd, eight of these deaths occurring after the arrival in the Port of New York from Naples of the steamship *Moltke*. Two passengers of the steamship *Abruzzi*, which reached this port over two weeks ago, were the first victims, one dying in Auburn, N. Y., and the other in Brooklyn. Of the other eight, seven were passengers of the *Moltke*, and the other a night watchman at the detention hospital. No new cases and no deaths from cholera have been reported up to the time of our going to press on the 25th. Dr. Hermann M. Biggs, chief bacteriologist of the health department, with Dr. A. H. Doty, health officer of the port, visited both Hoffman and Swinburne Islands, and reported that the colonies of detained passengers and cholera suspects on Hoffman Island, and the cholera patients on Swinburne Island, were all doing well. On Thursday, Mayor Gaynor visited

[1]Thomas Darlington, M. D., *Am. Jour. of Obst.*, May, 1911.

Hoffman Island, in company with Dr. Doty, Dr. Biggs, and Assistant Surgeon General L. E. Cofer, who represents Surgeon General Wyman, of the United States Public Health and Marine Hospital Service. Passed Assistant Surgeon R. H. Von Ezdorf, who has been in charge of the United States Marine Hospital at Mobile, and is an expert bacteriologist, has been sent to New York by the Government to inquire into conditions at Quarantine, and a rigid investigation will be made. It is believed that there is no danger of the infection spreading. Great precautions are being taken by the United States Government to prevent cholera entering the country, and great precautions are also being taken at Italian ports to keep cholera patients from leaving the country. The steamship companies are cooperating with the American and Italian governments in the fight to stamp out the epidemic.

The Medical Profession Today.[1]—Robinson concludes his strong, convincing paper as follows:

1. The medical profession of the present day is fully alive to its duties and its responsibilities.

2. Medicine of today is thoroughly scientific in its methods, employing the same means of experimental investigation and demonstrations as are employed by the other exact sciences.

3. Medicine of today is not shackled by the chains of authority and tradition. On the contrary, every dictum of any so-called authority, any statement regarding any drug or method of treatment, which has been handed down for ages from text-book to text-book, is called into question, is carefully analyzed and dissected, and if found wanting, discarded. Many drugs which were considered standbys by our forefathers have been thrown out from the Pharmacopeia, though they may still be used by old grannies.

4. The profession of today is broad-minded and is willing to investigate any remedy or method of treatment, no matter from what source it may come; it is willing to give a trial to any suggestion if it has a grain of common sense in it; even if the suggestion comes from a quack.

5. The evils which the medical profession is guilty of are not inherent in the medical profession as such; they are the result of our social conditions, of our immoral competitive system, which makes men fight and cut each other's throats in order to make a living, and these evils are much more in evidence in other trades and professions; the legal profession for instance.

6. The medical profession not only does its duty by the public, alleviating suffering, restoring hundreds of thousands of men and women to health and active useful lives, but we are making progress from year to year, we are making new discoveries, dealing with the larger problems, increasing the average duration of life, improving sanitation, etc. In short, we deal now not only with individual, but with national problems.

7. In judging of the life of any man, of the activity of any party, of the value of any movement, of the achievements of any profession, we do not take any single acts or incidents, but we take the sum total. If we take the sum total of the activities of the medical profession, if we subtract all its shortcomings, if we admit even everything our enemies say about us, the balance of good is overwhelmingly in its favor, and it can truthfully be said to be the most beneficent, the most progressive, the most humane and the most altruistic of all professions.

And therefore to the question: What is the matter with the doctors? I must answer:

There is nothing the matter with the doctors. They are all right!

[1]W. J. Robinson, M. D., *Critic and Guide*, June, 1911.

The accurate determination of a syphilitic roseola is, at times, a difficult matter for an inexperienced hand to diagnose. In such a case the erythematous macules, produced by the bites of insects, closely simulate the specific eruption and a little attention will enable anyone to easily differentiate the two. Subjectively, the insect-bite itches, the luetic eruption does not; objectively, the former has a bright scarlet punctum near the center, the latter has not. Naturally concomitant symptoms of syphilis will aid in corroborating the diagnosis.

Urinary suppression in infants is a condition that is so rare that, as a rule, it is advisable to exclude the probability of a mechanical obstacle to the urination; or, of a congenital deformity, by the passage of a soft rubber catheter. This exact method of determining the condition should never be forgotten.

Insanity and Uterine Disease.—On no subject do authorities differ more widely than on the connection between insanity and uterine disease, with which may be coupled all the disorders of the ovaries and ovalation. At a meeting of the Medico-Psychological Association, a discussion took place upon it, and views were stated which ranged from Spitzka's which was quoted, that even the grossest lesions of the female generative organs are not competent by themselves to affect the mind so as to produce insanity, to that of Newington who claimed that the whole of insanity of the female sex is more or less connected with the sexual relations. In my opinion there can be no doubt that there is connection between the nervous system and the sexual organs, and the furious erotic excitement which is found continually in cases of acute mania, clearly proves it, and proves also that the sexual symptoms are the result of brain excitement and not the cause; when the latter subsides, the symptoms vanish.

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Marriage and marital customs hold much that is of special interest to medical men. There is no detail of the social system that has a more profound influence on human life and living than the marital contract. It is basic in its character for it is the foundation of the home and the family. The part that these play in developing individuals, healthy in mind and body, needs no argument. No apology will be required, therefore, for presenting certain phases of the question as topics for medical discussion, and it will be freely conceded that the modern physician should be as concerned with these as with anything else that has any bearing whatsoever on the mental and moral as well as the physical welfare of human beings. The day has long since passed when medical men considered the human body in its physical aspects only. As knowledge extended and the modifying influences of the moral or mental status were more fully realized, it was but natural that the intelligent physician should acquire a broader and more comprehensive view of the factors involved in the maintenance of human life along certain lines accepted as standards. In other words, the training of the physician enabled him long ago to grasp the fact that man had emerged from his original state as an animal and had become a social being subject to an infinitely broader and more complex environment. The human body and the phenomena of life still remained the special field of medical surveillance, but recognition of the potent influences exerted by environal conditions brought immediately within the scope of medical consideration everything capable of effecting the slightest modification of mental or physical processes.

The marked effect that the marital customs of civilized people have on the human body, not only directly through immediate psychic influences, but indirectly through the powerful forces of the home and family, therefore makes marriage a question of even greater interest to medical men than to any other class. This is particularly true, inasmuch as the educated physician looks upon marriage in its broader aspects as an evolutionary factor, while the average person is apt to view it from purely sentimental or religious standpoints. It is impossible to trace in these brief remarks the origin of marriage, its gradual growth from barbaric customs involving rapine and slavery, up through stages in which the wife was considered as nothing but a chattel, and finally its establishment as a definite contract between man and woman with mutual rights and benefits.

From earliest times the church has taken a prominent part in solemnizing marriages and there can be no question but that the ceremonial and religious customs that be-

came prominent features of the consummation of the marriage contract, remaining so to the present day, have been of the utmost importance in securing its fulfillment by the contracting parties. But however serviceable and commendable these religious details have been, it is evident beyond all cavil that marriage, fundamentally at least, is a civil contract or agreement, originated for the benefit of society, the protection of certain individual rights, the preservation of the home, and the safeguarding of offspring.

Therefore, even though its consummation has usually been surrounded with ceremony to indicate the sanction of the church and to give it a more or less sacred character, it will be found that marriage in its final analysis is simply, as previously said, a contract between a man and a woman who mutually agree to fulfill certain obligations and abide by certain restrictions which the civil law has established. That the mutual agreement essential to making the contract often takes the form of reciprocal vows at a church altar and before an authorized minister of the gospel, does not make the contract any different or invest it with any more sanctity than any other in the eyes of the state law. To be sure the church or canon law may place certain restrictions against dissolution of the marriage contract, but obviously these are binding only so far as the contracting parties accept and abide by them. But no matter what ceremony or religious customs mark the making of a marriage contract, it still remains that the fundamental purpose is to preserve the social fabric, to protect individual rights, and to assure to offspring the benefits of an honest parentage. Marriage is therefore a potent agency for good and not only the whole social structure, but the human race individually and collectively owe much to it for its healthy influence on the manners and morals of the people of every civilized community.

Marriage should be encouraged, never discouraged.—Unfortunately the trend of economic conditions, in the large cities more particularly, is making marriage more and more difficult, and in many instances, almost impossible. Still other forces are becoming active as obstacles to marriage. Young women, for instance, are awakening to their possibilities in every calling and branch of industry, and the desire to shape their own lives is causing them to turn from marriage and motherhood to what they believe are more ambitious and praiseworthy fields of endeavor. The larger the number of young women who go into business life, the smaller the number naturally who seek training in the domestic arts. This means less young women attractive as wives, for the average young man wants a wife who can cook, sew and keep a home neat and clean. That there are comparatively few young women nowadays who want anything to do with housekeeping—practical home making—readily accounts for the large number of men who remain unmarried. Many a man would marry without delay if he did not have his doubts about the capacity of every attractive woman of his acquaintance to manage a home properly. The decreased buying power of the dollar is another obstacle to marriage. Not a few men who are earning twenty-five to fifty dollars a week have honest fears as to their ability to support a wife and home. They may be able to support themselves satisfactorily and save a little from month to month, but when they picture such a home as they would like, they quickly begin to wonder

if their income would suffice, particularly if disbursed by *this* or *that* young woman of their acquaintance. Then, if a young man is unusually thoughtful he will realize that children are liable to come and add still more to the inevitable expenses. Naturally he will want his wife to have what his friends' wives have, and his children to have everything in the way of clothes, luxuries and schooling that he sees his friends' children have. Can he compass it on his income, and carry the insurance essential to protect his wife and family in the event of his prolonged sickness or death? Suppose he should lose his position or his firm fail, and he not be able to place himself for a long time? The conscientious man is very apt to find the problem a most perplexing one, and when to these legitimate fears for the future are added his actual doubts as to the home making ability of the young woman he has in mind, it is hardly to be wondered at that he procrastinates and finally becomes a confirmed bachelor.

The evils of bachelorhood for both sexes are many. Men and women were created with the sexual impulse as the strongest of their nature. Marriage in addition to its fundamental purposes is the most effective check to bestiality and unbridled license. Every condition that interferes with marriage or that favors bachelorhood, therefore promotes immorality. This is as certain as any fact known today, and its substantiation is found at once in the present day increase in the social evil. Never were there more illegitimate children. Every general practitioner knows how much more often he is approached by young unmarried women seeking escape from the results of their lapse from virtue. There is no escape, however, and these poor unfortunates have to go on to become the mothers of nameless babes, with all the disgrace and dishonor that go hand in hand with their error, or they fall into the hands of that vilest of conscienceless criminals, the abortionist, who fattens on their misfortune. It is indeed a sad state of affairs and the saddest feature of all is the practical certainty that it will grow worse instead of better. Everything points to a further decrease in marriage and while the dangers for the young women who remain single from choice and who are able to carve out careers for themselves, are comparatively few, *it is the young working girl who has no chance to marry* that is going to suffer most. She, God pity her, is a plaything of fate and her cup is all too often running over with bitterness and sorrow. Ignorance, unfathomable desires, faulty social conditions, everything is against her, dragging her down to degradation. She has not a chance, hardly, in the whole struggle and all because she is living at a time when the circumstances that engulf her make honorable, soul-saving, body-preserving marriage a luxury that is becoming more unattainable for her and the young women of her class. And so if the foundlings go on increasing, together with the number of young women who die "under suspicious circumstances," if the army of painted women shows many more recruits, if diseases of the most sinister and frightful character go on claiming additional victims, and finally if immorality and crime multiply to degrees that seriously threaten society, it may be realized when too late that there is no worse calamity for the state or nation than a marked decline in the number of marriages.

Marriage should never be made difficult. —Instead, it should be facilitated, aided and

fostered in every possible way. The further development of economic conditions incidental to the nation's growth and progress may continue to place impediments in the way of marriage, but society, seeing the danger, should focus every effort on the removal of barriers to the easy consummation of the marriage contract. This, in no sense, means advocacy of the unrestricted marriage of the immature, mentally defective, criminally inclined, or incurable, although conditions are easily conceivable under which marriage for these would become simply the lesser of two evils. It is the general proposition, however, that is under discussion and the recommendation that marriage be facilitated as well as promoted is made with full appreciation of the necessity for careful restriction for some cases—and wise regulation for all. But wise regulation does not mean creating obstacles of any character, or discouraging in any way any marriage that can be consummated without actual injury to any one. In this connection the announcement of the engagement of a well known millionaire to a certain young woman furnishes excellent opportunity for emphasizing the advantages of marriage. We have no desire to offer the slightest offense to anyone who is honestly critical of this proposed marriage because of their religious or ethical beliefs. Every one has a right to his or her own views on the various phases of the forthcoming union. The groom-to-be is a well known middle-aged gentleman of excellent family who not long ago was divorced by a former wife, on statutory grounds. Under the laws of New York State he is forbidden to marry again within the state, although no such restriction is placed on the wife who won the divorce. The bride-to-be is a well bred and highly cultured young lady of about twenty-one years of age. No sooner was it known that a marriage was being arranged than a howl of vicious condemnation was emitted by certain individuals who, rushing into print, declared that such a marriage was indecent, improper, an outrage to society and the very acme of immorality. At least one clergyman went on record as saying that he would leave no stone unturned to prevent the marriage and make the ceremony impossible. Others have been almost as vehement and outspoken, attacking the parties concerned with a vulgarity and viciousness that bespeaks little for the purity and highmindedness of their motives. Right here let us say again that we are not referring to the honest criticisms of those who may think such a marriage improper because of the disparity of ages, the divorce condition on one side or the possible sordid desire for money and position on the other. Criticisms born of honest beliefs and convictions are honorable and deserving of respect. But maledictions and vituperative slurs and recriminations are unworthy of notice, for they indicate nothing but spite, hatred and the antagonisms of a small or vicious mentality. They are beneath the notice of thoughtful, clean minded people and should be ignored as far as possible for they usually do much more harm than the evil they attack.

As a matter of fact the union in question instead of harming any one, furnishes striking evidence of the fundamental benefits that marriage provides. Is it not infinitely preferable that a young woman be made a wife rather than a mistress? Will not every demand of private or public morals be better served by legitimate

marriage than by the establishment of less honorable relations? Is it not hewing closer to honor, decency and clean living for any man, divorced though he may once have been, to seek openly to induce a pure young woman to become his wife and the honored, respected mother of his future children, rather than to use his wealth and resources to encompass her ruin and sooner or later make her a mother dishonored and disgraced? Is it strange that a man of fifty should be attracted by the charms of a young woman of twenty-one? Is there anything essentially immoral in such attraction? Does it not show a better moral fibre for a middle aged gentleman to choose a good, pure, home loving girl and make her his wife in the face of the inevitable innuendoes and sneers of the multitude, rather than to live the life of a roue, and become a social pariah? With all due respect to every one who holds different opinions we feel that these people deserve commendation rather than condemnation. They could injure society far more, they could inflict much greater harm on themselves and every one close to them, and finally they could set a much worse example for mankind to follow—if they wanted to. On the contrary they have chosen the course that holds most honor, self respect and decency, that offers greatest protection to society and every one concerned, and that after all, is closest to the best and noblest instincts of humanity.

More or less criticism may be forthcoming because of our free discussion of a matter seemingly so far removed from the realm of scientific medicine. But aside from the justification we claim from the oft expressed opinion that the modern physician is concerned with everything that has to do with the welfare of the human family, the specific case referred to cannot fail to be exceptionally interesting to every thoughtful medical man. And, without affronting any one, we believe the majority of physicians will agree with us that this marriage like many another, will go far to exemplify the fundamental value of the marital relation as an agency that is infinitely healthier than its alternatives. The fact, moreover, that the contracting parties belong to the upper classes, simply emphasizes the generic character of marriage and shows that its beneficent influence is not limited to the poor and lowly, but is operative in every walk of life for the betterment of mankind. Physicians are in a position to know how true all this is, and as a consequence they will always be the last to question any marriage. They realize that human nature is human nature, and that marriage is the safety valve that protects the race. Take away the safety-valve—and God pity mankind!

Bathing at the nearby shore resorts presents such tangible dangers along new lines that a word of warning seems desirable. The frightful increase of sewage in the waters surrounding New York City has reached an almost intolerable condition. Blindly relying on the capacity of running water to purify itself, the people of New York have gone on pouring their filth into the adjacent rivers and bay. Not a thought has been given to the extent of the purifying capacity of the contaminated waters. It has not been realized that there is any limit whatsoever. As a result, New York and New Jersey are now confronted by conditions that offer a terrible menace to health, to say nothing of very real dangers to shipping and commerce. In spite of the enormous sums spent in making channels

and facilitating the entrance of large vessels, the people of New York City and vicinity have been filling up the channels with sewage faster than they could be dredged. Rapidly the situation is getting worse and far along the Jersey coast the sewage that is driven from the New York harbor is manifest. Obviously a sewage-laden water is not the safest for bathing, and it does not take a very vivid imagination to grasp the growing dangers. At Coney Island and the adjacent beaches, and at certain of the New Jersey resorts the condition of the water has been getting noticeably worse during the past year. Certain winds or tidal changes render the objectionable conditions more apparent and it is no exaggeration to state that there are days when the pollution of the water is so noticeable that ordinary decency makes bathing out of the question. At other times the physical evidences of pollution are less in evidence and this is when the greatest harm is apt to be done. No argument is required to show the evil effects that are practically certain to result from bathing in water contaminated with sewage. The very thought of immersing the body, and exposing the eyes, nose and mouth to such material is enough to sicken the strongest. It is certain that the danger of infection is very great and beyond all doubt many diseases that are obscure in origin could be traced to seashore bathing and the contamination thus encountered. Medical men will do well, therefore to bear in mind this possible source of infection and interrogate their patients as to their recent seaside outings. It may be necessary, moreover, to advise avoidance of bathing in nearby waters until the situation is improved.

It is indeed a regrettable state of affairs, for with a summer as fearful as that now passing, the poorer classes will find their sufferings greatly increased if they cannot freely bathe in the waters close by. It will take these inconveniences however, and probably much more suffering before any steps will be taken to correct this frightful abuse, or the people will arouse to the fact that there are few more valuable and desirable public possessions than clean, unpolluted waterways.

The therapeutic value of ipecac seems to be much greater than physicians in temperate climates have imagined. Attention has recently been called to the fact that the drug is a specific in the early stages of amebic dysentery, and if given in sufficiently large doses in salol coated capsules—20 to 90 or even 100 grains in a day according to results—it completely cures every case. There is now much evidence that it is also valuable in more advanced cases, even where there is extensive ulceration. It is even suspected that it cures bacillary dysentery, at least it succeeds in cases which never show amebae in the stools. The last and most amazing report is that it really does abort threatened abscess of the liver. Leonard Rogers of India has long been calling attention to its marvellous effects and now Dr. F. W. Dudley of Manila confirms these findings in a paper read before the Far Eastern Association of Tropical Medicine, March, 1910. Some work is now being done in the tropics with a view of separating the amebocides from the crude drug, and as they may prove of equal value in other infections we commend the matter to the early attention of our pharmacologists. The work so far done shows

conclusively that some preparations on the market are worthless, and it is therefore an urgent matter to standardize the drug, for a patient's life depends upon its potency and neither physician nor druggist is able as yet to say what are the tests of its efficiency except trial. Indeed there is some evidence that opposition to the drug is not infrequently due to bad results of inert preparations. There is an excellent preliminary report on ipecac by Capt. E. B. Vidden of the Army Medical Corps (*Bulletin, Med. Soc.*, Mar., 1911), but there is much more to be done. So far we know experimentally that the drug is a powerful amebocide, and that the contained emetin is effective in dilutions of 1-100,000.

Opposition to optometry is growing as expected, for these men are advertising themselves for what they are not. Some are not even opticians. The schools which they have created, falsely state that the students are properly instructed in one or two months, often only three lessons a week, in such matters as anatomy and physiology of the eye, diseases of the eye, materia medica and optics, each one of which requires years. The whole thing is ridiculous, and some governors are wisely vetoing the bills in the interests of public health. The laws, legalizing this form of quackery or incompetence, should be revoked at once, but such a desirable bit of common sense cannot be expected until the legislators are shown concrete cases of damage done by ignoramuses. These will be reported in time, of course, as the optometrists gain self-confidence and treat cases they now refer to learned physicians who have spent years specializing, yet it is horrible to think the damage cannot be prevented and that we must wait for it to be done. It is like waiting until a mad dog kills someone before we shoot it. As the laws must be revoked in time, it is hoped that the cases will promptly appear to avoid more. The Amer. Med. Ass'n has taken up the matter in the *Bulletin* of Nov. 15, 1910, which should be made available for all legislators, with the hope of influencing them to do the right thing before the damage is done.

The damage of excessive light in tuberculosis is a matter which should not require much proof, yet so fixed is the old dogma as to the therapeutic value of sun-baths, that a few phthisio-therapists do not seem able to realize the significance of their own results. The latest of the innumerable curiosities in systems of cure is that of Rollier in the Swiss Alps (*Boston Med. and Surg. Jour.*, Oct. 27, 1910). It is well known that a cold mountain environment is remarkably efficacious, particularly in surgical tuberculosis. Moreover, the results seem specially brilliant in places where it is cloudy most of the time as in our Adirondacks, and, most significant of all, there is far less improvement in the summer when the light is strongest and clouds fewest. Rollier is so convinced that the benefit is due to the light that he exposes the naked bodies of his little patients to the direct rays of the sun. Then almost in the same paragraph it is explained that unless the patients promptly take on a thick coat of tan which excludes the light, they do not improve rapidly, and that the blond types which do not tan show the worst results of all. It is also stated that in winter, when the alleged beneficial factor of light is the weakest, the progress is the most rapid. What is the most remarkable in all this illogical business, the children are given felt hats to keep out the light and for the bed-

ridden, screens are also put up to protect the head and upper chest from it. It is quite evident that the beneficial factor is the cold air of highlands, though how it works is still something of a mystery; but this much is certain, it is so beneficial that it cures the cases in spite of the damage done by the light while the patient is developing his protective coat of tan. Some good friend of Rollier's should suggest to him that if he would only protect his cases from light he might get almost as good results in his blonds as in his brunettes and in summer as well as winter. It may be true that "an Alpine climate is the most favorable one for the solar treatment," but it is infinitely better as a cure for tuberculosis when the light is the weakest and when the least of it penetrates the skin.

Phosphorus starvation seems destined to occupy a large place in pathology, if the newly discovered cause of beri-beri is in fact a deprivation of phosphates. The latest reports show that in the tropics those only are afflicted who have subsisted largely upon "polished rice" from which the outer layers have been removed and that if unpolished grains are used the disease is prevented and cases miraculously cured, providing they have not gone to the extreme of irremedial tissue destruction. Of course no one yet knows what are the specific substances lacking in the central, more starchy part of rice, but as the phosphates are mostly in the outer layers removed by polishing, it is presumed that the disease is due to phosphorus starvation. It seems that all the elements in the salts dissolved in the body fluids are highly poisonous of themselves—chlorine, magnesium, etc.—yet their salts must be present in definite proportions or there is a fatal disturbance of all those osmotic processes which depend upon what is now called cell tension. The close relation of scurvy and beri-beri has long been known and it now begins to be suspected that though their symptoms are vastly different, the basic causes are quite similar—that is, one is caused by deficiency of organic salts in the food and the other by deficiency of the inorganic. Perhaps there are numerous diseases of the same nature among people who have an unvaried diet, but they have been unrecognized because of their small number and obscure symptomatology. Scurvy and beri-beri have been long recognized because numerous cases are found where large numbers of people have had an unvaried diet.

The importance of the salts in food is now fully realized in the case of both adults and infants. There should be extensive investigations to find out the exact causes of all the dietetic diseases, and we commend the subject to our research laboratories. The wide-spread suspicion that the cell-riot of cancer is due to some kind of faulty metabolism which removes the checks to cell growth and multiplication, is merely another straw which shows the direction of present currents of medical speculation and it is safe to say that dietetics is bound to become of vast importance. It is high time therefore that this science be lifted from the sink of empiricism and placed upon a solid, scientific foundation of experimentally proved facts. We have been so dazzled by the brilliant light from bacteriologic research, that we have really neglected physiologic chemistry. If the dietetists had only been more aggressive, the dreadful scourge of beri-beri might have been understood a generation ago, but the field was surrendered to the bacteriol-

ogists who have wasted time, money and energy looking for a living cause of malnutrition. The matter of proper feeding is too vital to be further neglected, and by-the-way, the millions of deaths from beri-beri every decade show that whole nations may be improperly fed, so that we can draw no conclusions as to national dietaries. We must discover what they should eat and not assume, as heretofore, that their habits are correct. The chemist must now replace the bacteriologist in the centre of the stage.

The "only child" is receiving a lot of medical sympathy now-a-days, as it is stated that these poor little lonely tots are being killed by too much love and attention. It has long been a medical axiom that babies are the better for a little judicious neglect, as we know they can be joggled into neurasthenia, and we also know that the pampered child is "spoiled" for the rough and tumble of life's struggle. We are now assured that the state of affairs is very bad indeed—in Vienna at least, where Dr. Friedjung reports most of the cases he investigated as more or less neuropathic. Then there were waywardness, unusual mental ability and considerable malnutrition and digestive disturbances in spite of the greater care they are supposed to get. Before jumping to the conclusion that all these abnormalities are due to adversities of an abnormal environment, it would be well to look into heredity a bit, for parents having but one child are not like average parents. Something has prevented the usual number of pregnancies, and these average factors may be the causes of the infantile abnormalities which were thus acquired before birth, not after; and may indeed have been inherited in the strict sense —such as unusual mental ability or nervous instability. Perhaps the unusual care bestowed on an only child is what keeps it alive, as it may perish if it is made one of a herd. Some are the very kind we want in civilization, the nervous men of unusual originality or administrative ability. So let us go slow in depriving them of the care which may keep them alive, for we may go to the danger line of neglect in a case needing things which would be harmful luxuries to the more lowly organized.

The effects of tobacco on youths are still to be determined, for the statistics of Dr. G. L. Meylan of New York (*Popular Science Mo.*, Aug., 1910), to which we have previously referred, show that the tobacco users among the freshmen and sophomores of Columbia University, being about eight months older than the non-users are therefore heavier and bigger, though no one can say whether they are as big as they would have been had they let tobacco severely alone. Meylan seems to think that as the users of tobacco are those of larger means, and have had the benefit of better nutrition and generally more favorable environment, they should show much better form than they do and that therefore they may have been stunted by nicotine poisoning. On the other hand, they make greater gains in development in these two years than the abstainers, yet that may be due to a more natural way of living for they indulge in outdoor sports more largely. It is also shown that the users are more idle, less ambitious, lack application and attain a lower scholarship. If tobacco has these effects, it also causes a tendency to a religious life, for the vast majority of Christian clergymen use the weed and many of them excessively, even since early boyhood. As a matter of fact Meylan's figures can be used as a con-

demnation of our educational system, since the better endowed boys do not profit by it as much as the weaker and poorer "grinds" who are often far from normal specimens.

The benefit of tobacco for adults is also far from being understood, for we must assume a benefit in customs so nearly universal. Harmful habits disappear by the laws of survival. Whenever an explanation is given out by a physiologist worthy of a hearing, we are quite sure to find his statement flatly contradicted by someone else equally worthy. In the meantime the per capita consumption is apparently steadily increasing, and, moreover, with the progressive development of transportation facilities enabling growers to ship tobacco profitably to and from places formerly inaccessible, we find a steady increase in the amount of the earth's surface devoted to the cultivation of the plant, and a steady increase in the proportion of the world's population making their living in its growth, manufacture, and distribution. The only thing we are sure about, is the fact that even a tiny amount is distinctly harmful to little children, and though to be on the safe side we advise boys to abstain until well past twenty, we really have not the slightest idea of the exact age it can be used with benefit or at least without harm. To accuse it of responsibility for low scholarship or idleness is as baseless as the assumption it keeps men in the church ministry. Healthy normal boys are not instinctive scholars and naturally tend to the tobacco and other habits which we try to repress because of possible dangers, but the wholesale denunciations of the drug in early manhood are as unscientific as the explanations of its benefit for the fully matured. Nor can we yet say what is moderation or excess, and we must take every case on its merits for we occasionally find men seriously poisoned by an amount apparently indispensable for someone else. The whole subject, like too many others inherited from our pre-scientific days, is full of baseless opinions. We want accurate data, for at present we may assume from Meylan's figures that as the best developed boys are the users, the habit is a natural and wholesome one.



The Death of Dr. Frank P. Foster.— It is indeed a mighty wave of sadness that sweeps over us as we learn of the death of that ripe scholar, erudite physician, capable editor, and delightful friend, Dr. Frank P. Foster. For some time Dr. Foster had been aware of the fact that the ruthless hand of the Destroyer was at his throat, and that it was only a question of a few short months at most before the summons must come that would take him away forever from those he loved. In the face of this he still retained the same serenity and

poise that have so endeared him to countless friends and acquaintances. No complaint, no ravings at fate, no vain regrets have been voiced. Like a soldier at his post waiting the order that would enable him to pass along his duty, he has been patiently waiting, and now that it has come, he has simply laid down his burden and passed on. Truly, such men are missed, and there will be many who will find that the withdrawal of his daily greetings and association leaves a void—a great lack—that will not soon be filled.

Dr. Foster was born in Concord, N. H., on November 26, 1841, of old New England stock, his mother being a niece of Daniel Webster, and received a thorough education at the public school of his native town. In the curriculum of the schools of New Hampshire at that time were included such studies as Latin and Greek; English was also taught thoroughly, and here Dr. Foster laid the foundation of his great philological knowledge. When a young boy of about the age of fifteen years he entered the office of Dr. Lyman Gage, a physician of more than local celebrity. His preceptor introduced him to the study of botany, collected with him medicinal herbs which he showed him how to prepare in the laboratory and how to use at the bedside, for the physician at that time, in a country town, was often obliged to be his own pharmacist. The young student was also set to prepare chemical compounds, and vivid were his recollections of these preparations. He also studied anatomy and physiology and, thus prepared, entered the Medical School of Harvard in 1859, taking his degree of doctor of medicine, however, in the College of Physicians and Surgeons, New York, in 1862. New York, at that time, possessed three important hospitals: Bellevue Hospital, though it had fairly emerged from its original condition as an almshouse, had not attained to the importance that came to it a few years later; St. Luke's Hospital, at the corner of Fifth Avenue and Fifty-fourth Street, was too far away from the centres of medical activity to prove inviting to students. The New York Hospital, by far the most noteworthy, occupied the ground bounded by Broadway, Church, Worth, and Duane Streets. Here the young physician became interne, remaining for two years. Upon short notice he joined, as ship surgeon, the Pacific Mail steamer *Sacramento* which ran through the Straits of Magellan to San Francisco. Dr. Foster had much time on his hands of which he made good use by studying German, thus laying the foundation of that knowledge of the German language and literature which he subsequently so extended that in 1900 he was chosen to edit, with Dr. E. Althaus, a revised edition of *Adler's German and English Dictionary* which appeared in 1902. Returning via Panama he became, in the fall of 1864, contract surgeon in the United States Army, which position he held until the close of the war, being stationed in Annapolis and Baltimore. In 1865, he settled in New York, where he subsequently resided. At first he practiced general medicine, but later took up as specialties dermatology, and afterward obstetrics and gynecology; an ingenious method of extracting the fetus after transverse presentation now bears his name. In 1870 he introduced the manufacturing of cow vaccine into America under the auspices of the New York Dispensary. Three years later, in 1873, he went to London and, upon invitation, delivered a lecture before the

British Medical Association on vaccination. Soon after his return to New York he was offered the chair of obstetrics at Yale University, which he declined.

On January 1, 1880, he assumed the editorship of the *New York Medical Journal,* founded in New York in 1865 by the late Surgeon General William A. Hammond, United States Army. The *Journal* was then a monthly publication, as it had been since its foundation, and was so continued for three years, since which time (1883) it has been published as a weekly. In July, 1900, the *Journal* was transferred from D. Appleton & Company to the A. R. Elliott Publishing Company, and shortly afterward absorbed, in 1902, the *Philadelphia Medical Journal,* and finally, in 1906, the *Medical News.*

In the early eighties, Dr. Foster became editor of the well known *Foster's Encyclopaedic Medical Dictionary,* in four massive volumes, which it took twelve years to prepare and publish and which was translated into seven languages. Dr. Foster was also the editor of a *Reference Handbook of Practical Therapeutics,* in two volumes, and belonged to the editorial staff of the *Standard Dictionary.* He contributed the chapter on Virchow to Lord's *Beacon Lights of History.* During the nineties he was librarian of the New York Hospital.

Dr. Foster's knowledge of languages, both ancient and modern, was widely recognized during all these years. In the use of the English language he was conservative and preferred that our tongue should be left to the natural processes of evolution and not urged forcibly into novel paths by enthusiastic doctrinaires. When the American Medical Association decided upon a revision of the medical nomenclature, Dr. Foster was chosen chairman of the commission and wrote the reports presented in 1909, 1910, and 1911. He was also one of the one hundred honorary members of the Medical Reserve Corps, U. S. A.

Dr. Foster's activities were varied and untiring. He was a strenuous supporter of the Academy of Medicine at the earliest times, when the meetings were held in the small chapel of the University of the City of New York, then situated in University Place, facing Washington Square. He also took active part in the "code fight" in the Medical Society of the State of New York. He was a member of the Dermatological Society, which he helped to found and of which, in later years, he became an honorary member, and of the Gynaecological Society.

But now his labors are over. The places that have known his cheery presence will know it no more. Those who have delighted in his friendship and companionship must go on without him. It is hard to give up so much but the choice was neither his nor ours. But if the friend and companion is gone, if his voice is heard no more, there is yet left cherished recollections of his personality and the thousand and one details that are inseparable from the hours spent with him. How dear these are only those who have enjoyed them can ever know. Rest on, then, brother, and may the comfort and peace that passeth all understanding be thine, for thou hast indeed earned them.

Men may come and men may go, but it will not be soon that the world of scientific medicine will forget Dr. Frank P. Foster or the imperishable work of this fine American scholar.

ORIGINAL ARTICLES.

HYPOTHYROIDA—WITH REPORT OF A CASE OF SPORADIC CRETINISM SHOWING THE RESULT OF ELEVEN YEARS OF THYROID TREATMENT, ALSO A CASE OF INCOMPLETE MYXEDEMA.[1]

BY

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Of recent years the study of the ductless glands has been attracting considerable attention, the interest steadily increasing as new and often startling facts have been added one by one to our knowledge of the subject. An attempt to keep track of even the current literature upon this topic will soon convince one of the magnitude of the field.

In this communication I shall consider briefly that phase of the subject which has to do with diminished or absent secretion of the thyroid gland as illustrated by the following cases:—

Case I. **Sporadic Cretinism**:— H. E.; Male, age 14 years. Both parents are living and well, also four brothers and two sisters. There is no history of alcoholism, syphilis, nervous or mental disease, nor as far as could be ascertained, of disease of the ductless glands in any member of the family.

He was a "blue baby" born at full term after a rather prolonged labor. No forceps were employed. He was breast fed for 18 months, at which time his mother noticed that the child was backward. At the age of 3 years, he had not learned to walk or talk, but was easily managed. He was then taken to St. Christopher's Hospital, where he came under the care of Dr. Luther C. Peter, to whom I am indebted for the following report of his condition at that time:—The child was very small for his age, the skin white and mottled. The head was very much lengthened in its antero-posterior diameter, the forehead protruding and the occiput overhanging. The vertex was flattened and the fontanelles open. The face was broad and shortened from forehead to chin. The lips were thick, the mouth open and a thickened tongue protruding. The mouth contained 12 poorly developed teeth. The nose was wide. His hands and feet were thick, the thighs and calves large, thick and hard. There was no enlargement of the ends of the long bones, although there was a slight bowing outward of the tibiae. The belly was large and protruding and the liver somewhat enlarged. The child was passive and easily controlled. He was placed upon thyroid extract, gr. 1 morning and evening, and nine months later it was noted that he had gradually improved under the treatment, was much brighter, had stopped drooling, had learned to walk and was trying to talk.

The patient came under my observation in March, 1911, then 14 years of age. He was very small, weighing only 58 pounds, and was in the third grade at school, a sister 9 years old being in the same class. It is interesting to note that although so far behind other children of his age, he at the present time has no difficulty with his studies and is promoted regularly. For some time past, he has been taking 4 grains of thyroid daily and his father states that whenever he stops the tablets for a time, he becomes dull and lethargic, loses his appetite, his tongue seems to become thicker, or at least protrudes. Another point of interest is that at one time the slightest knock or, as the father expressed it, the "least touch" upon his skin would leave a bruise. This symptom is very common in adiposis dolorosa, another condition due to disordered functioning of the ductless glands. His features are small, his ears large and flaring, the palate arch wide and slightly higher than normal. The hands and feet are somewhat clubbed. His weight is now 61½ pounds. Upon increasing the thyroid to grains 6 daily, he became listless, tired, irritable, complained of feeling warm and his pulse ran up to 100 per minute. The amount was then reduced to 3 grains daily, which appears to be about the amount required.

[1]Read before the Philadelphia County Medical Society, May 24th, 1911.

The case is interesting as showing the result of eleven years of thyroid treatment, which enabled the boy to live a normal active life, instead of existing as a helpless, idiotic cretin. It will be noted that the years lost before thyroid treatment was instituted have never been regained, as in both mental and physical development he is three to four years behind other children of his age.



CASE I—At the age of 3½ years, after 6 months of thyroid treatment.

Case II. **Incomplete Myxedema**: H. H., female, from the neurological dispensary of the Jefferson Hospital. She is 22 years old, of German parentage, and employed in a hosiery mill. The family history is negative except that a sister has dementia precox.

The patient was one of twins and had the usual diseases of childhood. At school she never got along as well as the other children, but appeared, according to her mother, to be bright mentally. She began menstruating at the age of 14 years, since which time her menses have been regular, but very painful. When 12 years old, she started to work but would fatigue readily, this finally becoming so marked that she would come home from the mill in the evening and cry because of her fatigue, while the girls who worked beside her would be ready for a dance or other frolic. For over two years she has complained of her face feeling bloated, and of a general weakness. Sometimes she would have a feeling as if her knees were giving way. Pain would occur at times over the whole body, but chiefly in the legs, which she describes as a "hammering pain", but sharp in character. Vertigo was at times marked. There was no tinnitus aurium. A common complaint was of cold hands and feet and a general feeling of chilliness with occasional spells of flushing. Her head aches a great deal, she has frequent vomiting spells and is markedly constipated.



CASE II—After 2 months of thyroid treatment.

Upon examination there is thickening, infiltration and tumefaction of the skin of the face, trunk and extremities. The skin is dry and the hair lusterless. The cheeks are full, the eyelids droop, especially the left (congenital ptosis) and the ears are sessile. The teeth are in good condition, the tongue long and narrow. The thyroid can not be felt.

Eye Report.— Dr. John L. Bromley stated in a letter (March 21, 1911) that he was much interested to learn of the patient's condition. In regard to her eyes, he had obtained under mydriatic in the right eye, a vision of $^{20}/_{30}$ with + .25 Sp. —3.25 Cy × 180° and in the left eye a vision of $^{20}/_{40}$ with —.25 Sp. —4.00 Cy × 175°. There were no gross lesions of the fundi, the muscular balance was good and the only abnormality found was the slight ptosis on each side.

Blood Examination.— Made by Dr. George F. Lull, was as follows:—Hemoglobin 89%; erythrocytes 4,580,000; leucocytes 6,000; color index 0.9+.

Differential Count.—Polymorphonuclears 65%; small lymphocytes 29%; large lymphocytes 5%; transitional cells 1%.

Urinary Examination.— Was practically negative.

This patient has been steadily improving under thyroid treatment, the most marked change being in her subjective symptoms.

A feature of interest in this case is the fact that she has had numerous hysteric attacks, varied in character, but all more or less prolonged and severe. Most of the references consulted make no reference to hysteria in relation to disthyroidea, but Osborne takes a rather extreme position, stating that "the various forms of hysteria, some cases of epilepsy, mental depression, and even primary melancholia are all due to disturbed thyroid secretion."

What to me is the most interesting and suggestive point about the case is the fact that a sister of the patient has dementia precox. I have knowledge of several instances where dementia precox has been associated with various forms of ductless gland disturbance in other members of the immediate family and believe there is a "ductless gland" heredity or a transmitted tendency for these structures to functionate imperfectly, analogous to the so-called "neuropathic heredity." This observation is also of interest in connection with the question of the pathogenesis of dementia precox.

The thyroid gland develops from both entoderm and mesoderm, and according to Sir Victor Horsley, begins to functionate from the sixth to the eighth month of fetal life. It is extremely vascular and has both sympathetic and autonomic nerve connections. The gland reaches its maximum in size and activity between puberty and middle life, from which latter period, there is a gradual decrease both in secretion and bulk as the thyroid atrophies.

Before the latter part of the 19th century, theory and speculation regarding the functions of the thyroid existed in place of accurate knowledge. The gland was thought by some to have no function, by others, to be concerned chiefly in preserving the contour of the neck, and still others believed that it was concerned with sleep, with the emotions, etc. Schiff, in 1857, by experimental thyroidectomy upon animals, was the first to offer conclusive evidence of the extreme physiological importance of the thyroid secretion. Osborne sums up the present day ideas regarding the physiology of the thyroid as follows:— "A perfect secretion of the thyroid is necessary for the proper bone and mental development of the child, and the proper mental condition of the adult; for the proper relationship of the amount of fat to the rest of the body; for the proper health and functioning of the skin; for the proper health of the teeth, hair, nails; for the

proper menstrual and maternal functions of woman; for the proper nitrogenous metabolism of the body; and for the prevention of nitrogen toxemias."

Sajous, the pioneer of ductless gland work in this country, holds that the phenomena ascribed to the thyroid are due in part to the activities of certain other of the ductless glands (the hypophysis and adrenals) and terms them the "adrenal system." Certainly these glands, and in fact the entire chain of ductless glands have a close interrelation. Thus, functioning of the ovary increases and diminishes with that of the thyroid, while overactivity of the thyroid is accompanied by diminished adrenal activity, which latter is relatively increased in myxedema. The pituitary body has also been found to be hypertrophied in myxedema (Kr. Gron) and numerous cases are on record in which the thymus has been found to be enlarged in exophthalmic goitre (Gierke). Barnabo, experimenting with guinea pigs, found that after castration, the hypopysis became hypertrophied and that the thyroid, parathyroid and adrenal glands presented distinct evidence of increased functional activity. Pigmentation similar to that of Addison's disease has been observed by Von Schotter and others in exophthalmic goitre.

Thyroid secretion may be present in the body under abnormal conditions in an amount varying from great excess to marked diminution or absence; clinical manifestations extending from thyroid delirium and exophthalmic goitre on the one hand to complete myxedema on the other hand. In adiposis dolorosa there may be a condition of dysthyroidea, symptoms of both hyperthyroidea and hypothyroidea being present.

It was Reverdin who first pointed out the pathology of myxedema, and who later recognized the partial or incomplete forms of the disease.

Diminished secretion is manifested in many ways, the onset being invariably slow. A ready fatigue and lessened capacity for work are noticed; the mind becomes less alert and there may be some impairment of the memory. The patients may become irritable or they may be indifferent and lethargic. General asthenia is a constant symptom and a sensation of weakness or "giving way" of the knees is a frequent complaint. The skin becomes dry and there may be a fine branny desquamation. The color changes to a yellowish tint; the hair becomes thin and the nails brittle and atrophic. A characteristic tumefaction of the integument is noted, especially about the face; the upper eyelids are thickened and the cheeks become full and rounded ("Moon face"). The subcutaneous infiltration may be general or limited to certain areas, as the supraclavicular pads and thickening about wrists and ankles; there may be a tendency toward a general obesity. Pain is very common, especially in the head and often in the back, while muscular and arthritic pains are not infrequent. The heart as a rule is slowed and the blood pressure increased, although in some instances tachycardia may occur. Often the temperature is subnormal and an almost constant symptom is a feeling of chilliness and an abnormal sensitiveness to cold. These and many other symptoms are probably the result of deficient oxygenation. Nitrogenous elimination is retarded; the retention of the waste products being a probable factor in the etiology of the headaches. Sajous believes that the general pains and increased

sensitiveness of the nervous system are due to hyperemia of the sensory nerve elements resulting from relaxation of the muscular layer of the arterioles. Gastro-intestinal disorders are common and constipation is marked; anorexia is most always present. The nasal and buccal mucosa is apt to be swollen; adenoids are frequent; the voice is husky and dyspnea may occur upon slight exertion. No constant urinary phenomenon has been observed except diminished urea elimination. Albumen is present in the urine in about one-fifth of the cases. Amenorrhea or scanty menstruation is more or less common.

Complete myxedema presents a picture easy of recognition, but incomplete myxedema, while more common, is less readily recognized; the diagnosis resting not upon any one symptom but being made from the composite picture of the clinical symptoms, together with the history of the case.

While excessive thyroid secretion is controlled with difficulty, a diminished or absent secretion is readily replaced by the administration of one of the various preparations of the gland. At the start from ½ to 1 grain of the desiccated gland could be given three times daily, rapidly increasing until the proper amount is determined. This will of course vary in different cases, so no fixed dosage can be given.

In closing I would emphasize the importance of recognizing the cases of hypothyroidea of slight or moderate degree, as I believe they are not uncommon and are often unrecognized.

I am indebted to Dr. F. X. Dercum for the privilege of recording Case II, and to Dr. M. A. Burns for the photograph of the same case.

A PLEA FOR A MORE CAREFUL ESTIMATION OF THE CAPACITY OF THE FEMALE PELVIS DURING PREGNANCY, WITH A FEW SURGICAL SUGGESTIONS[1].

BY

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To Vesalius belongs the credit of first describing the normal pelvis, and to Arantius, the first anatomical description of the abnormal pelvis.

Very little attention was paid to these descriptions, for most obstetricians, following the teachings of Paré, held the view that the pelvis became more roomy during labor, by the separation of the pubic bones. Even in the next century very little notice was taken of this important condition. In the early part of the 18th century Deventer described the flat and generally contracted pelvis. Snellie devoted a good deal of attention to this subject and in 1752 published a description of the normal pelvis in addition to the usual variety of deformities met with. Later Baudelocque contributed to the subject and was the first to describe the external conjugate, which is very often called the diameter of Baudelocque. He taught that by subtracting three inches from the diameter of the external conjugate, would give the length of the true conjugate. This is not considered accurate on account of the various modifying conditions such as the thickness and inclination of the sacrum and symphysis pubis.

[1]Read before the Brooklyn Medical Society, December, 1910.

Michaelis of the University of Kiel (1843-50) laid the real foundation of our present knowledge. He was followed by Litzmann who taught that all pelves should be considered contracted in which the true conjugate measures 3¾ inches (9½ cm.), in the flat of four inches (10 cm.), in the generally contracted. For practical purposes, however, the observer will not go far astray who considers all pelves as contracted in which the diagonal conjugate measures 4½ inches (11½ cm.) or less.

The true conjugate, the most important diameter for estimating the capacity of the pelvis, is seldom measured directly; its length being usually estimated from that of the diagonal conjugate, although several pelvimeters have been invented for such direct measurement, such as Skutch's, Stein's and Hirst's.

It is a noteworthy fact that American women show a lower percentage of contracted pelves than the foreign born. It has been variously estimated between six and eight per cent. Crossen, of St. Louis, found about 7% in 800 women. Reynolds, of Boston, reported 7% in every 2,000 native born women. Williams, of Baltimore, 13.1% in a total of 2,133 cases, of which 6.9% were in white and 18.82% in black women. In other words it occurred approximately in every fourteenth white woman and in every fifth black woman. The various German writers have reported statistics ranging all the way from 8% to 24%, the greater number having an average of about 14%, or about one in every eight. Tarnier found about 16% in Paris, Shauts 20% in Vienna, Jewett 12.9% in the obstetric department of the Long Island College Hospital. He aptly said, however, that these figures cannot be taken to represent the general prevalence of pelvic contraction, as the proportion of abnormal cases is naturally greater in hospital than in private practice, a great many cases being referred to the hospital on account of previous or prospective difficulty of delivery. I have found pelvic contraction in about 10% of the cases, covering over 200 measurements, but mostly native born women.

The most important diameter of the pelvis from an obstetric point of view is the true conjugate. Externally, therefore, we would measure the external conjugate as the most important external measurement. This is taken from a depression immediately below the spine of the last lumbar vertebra to a point a little below the upper margin of the symphysis pubis. A pelvis measuring 8 inches (20.5 cm.) or more, almost invariably gives ample room, whereas one measuring 6¼ inches (16 cm.) or less is invariably contracted. The inter-crystal, inter-spinal, inter-trochanter and bis-ischial measurements would then decide whether the condition is one of mere flattening or one of general contraction. These additional measurements would also decide the condition of those left in doubt, namely between 6¼ and 8 inches.

While the external measurements are of value in estimating the probabilities in the case, we cannot rely on them entirely for computing the internal diameters.

Baisset, after an examination of 120 dried pelves found a variation of from two to four inches (5 to 10 cm.) between the external and true conjugate. Goenner, after measuring 100 cadavers externally, nearly all of which were contracted, again measured them internally and found only 22 instances of contraction.

In spite of all these possible fallacies, external pelvimetry is of considerable value

and not to be neglected. For instance, further measurements are rarely necessary in a primipara where external measurements are approximately normal when measured four to six weeks before the expected date of labor with the head of the child low down in the pelvis. When the external measurements are abnormal, then internal measurements should be resorted to irrespective of other conditions.

When the diagonal conjugate measures 4½ inches (11.5 cm.) which means about four inches for the true conjugate or less, the pelvis is contracted.

The extreme lithotomy position is of advantage in taking this diameter. It is well at the same time to take note of the concavity of the sacrum, its inclination, as well as the inclination of the symphysis pubis, as these conditions are of importance in determining the degree of the deformity.

At times pelvic contraction is confined to the pelvic outlet, which may be determined by measuring the sacro-pubic diameter. If, therefore, we should confine ourselves for diagnostic purposes to the measurement of the external conjugate, diagonal conjugate and sacro-pubic diameters practically all pelvic deformities would be discovered.

Jewett said if pelvimetry was made a part of every obstetric examination in all women about to be delivered for the first time, and in all others presenting a history of previous difficult labors, some of the tragedies of the lying-in room would be prevented.

Kleinwachter said that no error in diagnosis is so terribly avenged upon mother and child as one relating to malformation of the pelvis.

It is usually important to determine the relative size of the fetal head. This may be approximately arrived at by following the method of Muller or Pinard. Muller seizes the brow and occiput and makes firm downward pressure through the abdominal walls. If the head enters the pelvis there is no disproportion.

Pinard seizes the head, pushes it downward and backward so as to bring its posterior portion in close contact with the promontory. An attempt is then made to place the fingers of the other hand between the anterior surface of the head and the symphysis pubis. If this can be done there is no disproportion. If the head lies prominently over the symphysis pubis, engagement will probably not take place. Either may prove of use in estimating probabilities in the case a few weeks before the expected date of labor. In either of these methods the positive results are of more value than the negative, for the head will sometimes mould sufficiently to pass the inlet if the disproportion is not too great. We have all seen cases terminate spontaneously in which we scarcely hoped for such a good result.

Although the statistics show that about 60% of the births in cases of contracted pelvis terminate spontaneously, the course of labor is markedly influenced in numerous ways and always unduly prolonged.

Twenty-six per cent. of the cases have premature rupture of the membranes because the force of the hydrostatic pressure is not broken by the engagement of the head as in normal labor. The dilatation is therefore slow and irregular. Even after dilatation is complete, considerable time is usually required for the moulding of the head, especially in the generally contracted pelves, where the mechanical difficulty persists throughout the entire birth canal. Faulty uterine contractions, causing secondary inertia due to exhaustion are of

frequent occurrence. Rupture of the uterus due to the abnormal thinning of the lower uterine segment after a prolonged second stage constitutes a very serious danger.

Three such cases came under my observation in my service in the Williamsburgh Hospital. Vesico-vaginal, vesico-uterine, and recto-vaginal and one case of vesico-uterine fistula. Two were operated on at the Deaconess and three at the Williamsburgh Hospital. The prolonged labor exposes the patient to the serious danger of infection on account of her lessened resistance due to exhaustion especially when examined frequently by one whose technique is questionable.

Early rupture of the membranes followed by a prolonged labor also exerts a bad influence upon the child. Asphyxiation caused by interference with the placental circulation and pressure upon the child's head interfering with the cerebral circulation may be mentioned. Pressure of the presenting part upon a prolapsed cord is one of the most frequent causes of death in spontaneous delivery in contracted pelves. Fracture of the skull from violent attempts at delivery have been reported.

The management of labor complicated by contracted pelves may be divided into three classes.

1. Those in which we have extreme contraction of the pelvis, in which an attempt to deliver the child through the natural passages is inadvisable with a conjugate less than three inches.

2. Those in which the pelvic contraction is such as to prevent the birth of a full term child through the natural passages, but in which the extraction through the pelvis furnishes the best chance of saving the life of the mother. 3 to 3½ conjugate.

3. Those in which the pelvic contraction does not exceed the limits within which the delivery of a living child at term is at least possible.

In the first class, if the diagnosis of the deformity is made during pregnancy the patient should be sent to the hospital and Caesarean section performed at or before the onset of labor. Below 2½ inches is absolute indication for Caesarean section even if the fetus is dead, as extraction after craniotomy is practically impossible under such conditions. As we get close to 3 inches, craniotomy may be performed upon the dead child.

Second class. These cases rarely terminate spontaneously, and if the general health of the patient would exclude the abdominal route, premature labor at about the 34th to 36th week is to be considered as offering the best chance for a successful termination of the pregnancy. We must remember, however, that rarely more than 50% of the children survive longer than the first few months on account of inanition. Furthermore it is seldom of avail if the conjugate is 3½ inches or less. If the case does not come under observation until term we have a more difficult question to solve. If the disproportion between the fetal head and the maternal pelvis is not too great, we may hope for a spontaneous termination of the labor, assisted perhaps by the Walcher position, and after moulding of the head, tentative traction with the forceps. Symphysiotomy or pubiotomy followed by forceps extraction or version as may be indicated in the individual case may be performed. It must be borne in mind, however, that in the performance either of symphysiotomy or pubiotomy, we cannot hope to gain more than one-half inch in the conjugate diameter with safety to the sacro-iliac joints. If the fetus is dead craniotomy should be resorted to.

I might state here that even in these cases where abdominal section seems to be

contra-indicated, it may often be performed with no greater danger to the mother than a prolonged exhaustive ineffectual second stage, during which the patient runs the risk of uterine rupture from the thinning of the lower uterine segment.

The great danger of infection from the many examinations made in the hope of finding some improvement in the condition; the numerous attempts at extraction during which the patient is steadily losing ground, and in the end find that we must resort to one of the operations upon the pelvis to terminate labor.

The soft parts are usually severely lacerated and recesses followed by fistula are not of infrequent occurrence. Usually the child dies during or soon after delivery as part of the tragedy, and we generally consider ourselves fortunate if the life of the mother is spared. The mortality in these cases is very high. In 93 cases reported by Barinski, in which version was done as offering the best chance of success, 15 mothers succumbed and 59 children were born dead or died soon after. In 58 of these cases the pelvis was just ordinarily flattened with a fetal mortality of 29. The statistics of Caesarean section are much more encouraging. If performed before or at the onset of labor the danger is no greater than in an ovariotomy, and practically all the children live. After the patient has been in labor each successive hour of suffering lessens her chances of recovery, and it necessarily becomes a very serious operation after a prolonged second stage. In fact, the maternal mortality becomes even greater than that following the various methods of extraction through the natural passages. Dr. Jewett said, while reporting a case of symphysiotomy, that it offers a fair chance of success in the presence of considerable exhaustion, a condition in which Caesarean section is attended with a very high mortality. In the case mentioned, when the patient was brought into the hospital her pulse was 150, yet she made a complete recovery and the child was saved. He said that in this case abdominal section would doubtless have sacrificed the mother and the child's chances would have been impaired under artificial feeding.

Third class. In this class of cases the judgment of the obstetrician is taxed to the utmost. A little more room would allow the operator to terminate the labor successfully. If seen early in pregnancy as a precautionary measure the patient should be put on the Prochownick diet, at least during the last 3 or 4 months. If at the end of the 8th month there seems to be a fair disproportion between the maternal pelvis and the fetal head the induction of premature labor may be considered. If not seen until labor is in progress, it is well to bear in mind that about 60% terminate spontaneously, after a more or less protracted second stage. Cases in which the disproportion is not too great, may be assisted by the Walcher position and expressio fetus. This must not be persisted in too long as it contracts the outlet. After the head has passed the inlet, or at least is firmly engaged, the position of Schmidt is often of assistance. It is well to try these before resorting to more formidable measures. Forceps may be used if the head is engaged but never when freely movable above the superior strait. The persistence of this condition after several hours of good second stage pains indicates that the disproportion is too great, and forcible attempts to drag the head through such a pelvis invariably lead to fatal injury of the child

and not infrequently to the death of the mother. Simpson has pointed out that version has the advantage in that the smaller diameters entering the pelvis first overcome some of the resistance. This is usually considered a safer procedure for the mother, but the fetal mortality is estimated at 35% to 50%. I might say here that a version should not be done after the waters have been discharged. This necessarily limits its field of usefulness, for if it is to be done at all, it must be done soon after the rupture of the membranes and before the second stage uterine contractions have had a chance to exert much effect in moulding the head. I am sure that a good many cases in which early version is done, if left to themselves would terminate spontaneously. Only a little more room being required, pubic section whether at the symphysis or through the pubic bone would seem to have a field of usefulness.

Although it may seem to be a dangerous theory, I believe that Caesarean section will in the future be more frequently resorted to even in the cases of more moderate contraction, those belonging to the third class. It has the advantage over pubiotomy in that it effects delivery, whereas pubiotomy merely paves the way. But the latter may be used in the face of more or less exhaustion, however, as I said before in minor degrees of narrowing only. Craniotomy when the fetus is dead.

To recapitulate:

1. Pelvic measurements should be made (a) in all primipara; (b) in all multipara with a history of previous difficult labors.

2. The three necessary measurements are: (a) external conjugate; (b) diagonal conjugate; (c) sacro-iliac.

3. External conjugate 8 inches or more, ample room as a rule; external conjugate 6¼ inches or less, contracted; diagonal conjugate 4½ inches or less.

4. Below 2½ inches in true conjugate is absolute indication for Caesarean section, fetus alive or dead. If 3 inches, craniotomy if fetus is dead, Caesarean if alive.

5. True conjugate 3½ inches better treated by Caesarean if patient is in good health and seen at or before onset of labor. Some of the measures mentioned below may be tried if patient has been in labor for some time or is exhausted from other causes.

6. True conjugate less than 4 inches and more than 3½. If the patient is in good health, seen at term at or before the onset of labor Caesarean section is the operation of election. If in labor two hours second stage pains may be allowed before operative interference. Never allow the patient to become exhausted before instituting means of relief. Remember that each hour of labor lessens the patient's chances in Caesarean section. Pubic section if not more than one-half inch in conjugate needed.

7. True conjugate 4 inches or a little more. During pregnancy Prochownick diet last three or four months. During labor Walcher position, then Schmidt position before interference. Forceps only after engagement. Version only in presence of waters. Place patient in bed as soon as membranes rupture so as to preserve the water as much as possible.

STATISTICS.

Caesarean at onset or before labor, maternal mortality about 2%.

Fetal mortality not more than at normal labor.

Caesarean after two hours second stage about 4%, after that it becomes progressively high.

In pubic section maternal 10%; fetal 15%.

Most pubic sections were done on patients more or less exhausted, in which Caesarean section would probably have proved fatal in the majority of cases.

In conclusion I wish to say that the repeated delivery of dead children in cases of contracted pelves is unjustifiable, and indicates a neglect of human life which should not be tolerated.

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THE HIGH FORCEPS OPERATION: IS IT A MODERN SURGICAL PROCEDURE?

BY

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It is my intention in this short paper to discuss the high forceps operation as it is being employed in private practice by the general practitioner. In hospital work, the use of high forceps is becoming less frequent and, very possibly, in the future it may be entirely discarded. The materials forming the basis of my conclusions include both an active private and hospital practice.

By the high forceps operation, as understood in obstetrics, is meant a condition during childbirth, where, in spite of the apparent normal position of the fetal head, and notwithstanding the forcible uterine contractions, the head refuses to engage, so that the biparietal diameter is still above the brim. When this condition persists for some time after the dilatation of the cervix is more or less complete, the forceps is applied to the head, same is pulled through the parturient canal. If the position of the head is not normal this procedure become still more complicated and is connected with greater danger to both mother and child.

Delivery of a child by means of high forceps application was fully justified in the days when obstetric surgery was not fully developed, then asepsis and antisepsis were not well understood, and it was a life saving operation for the mother, for, were she not relieved she would have died from exhaustion and sepsis. In the light of our present knowledge, it is hardly a justifiable operation.

Viewing it from a purely surgical standpoint, we know of no other surgical procedure where the same principles are carried out. We know of no procedure in surgery where it is attempted to pull through a mass of distinctly greater dimensions than that of the cavity. If such an emergency arises in the course of an operation, either the opening is enlarged or the mass is made smaller. Mere force as a means to accomplish it is never brought into play and no surgeon would ever contemplate doing so.

It is practically established now that the actual size of the pelvis in a given case of labor is not the criterion for its normal termination, that the fetal head must be taken into consideration; that a woman may have a normal pelvis in relation to the child during one delivery, the pelvis will be relatively contracted during the next labor, if the child is of a larger size. The pelvic measurements are of a great value as a general guide in an approaching labor, but may fail us when labor has commenced, as the fetal head may be developed to the extent that it is out of proportion to the pelvic inlet. This principle, I fear, is not universally appreciated by the great mass of physicians, and if it is conceived, it is not employed intelligently and often enough. Errors in this direction lead to irreparable injury to both mother and child.

Obstetrically it should be our aim not only to save the mother and child, but we should be careful to use means that will lessen the morbidity of the mother. Somehow the question of morbidity in obstetrics has not been given the amount of attention it deserves. A laceration of the cer-

vix or perineum is dismissed lightly, since it is so readily stitched up. One gives very little thought as to the final result of these operations, and to its effects upon the health of the mother. The more one is surgically trained in obstetrics the more convinced is he that we must avoid all operations that tend to mutilate the soft parts of the mother.

To practice modern obstetrics there are three cardinal principles that must be constantly kept in mind before treatment in a given case of dystocia is undertaken:

1. The effect of the operation upon the mother.
2. The effect upon the child.
3. The operation from purely a technical and surgical standpoint.

These are the three essential principles, and if possible, are to be carried out in all our obstetrical work. In the study of the high forceps operation we fail to find any of the above principles followed out. The effect of the high forceps operation upon the mother is familiar to all who make use of it from time to time. The danger to the lower segment of the uterus is well known; next to version the uterus is more frequently ruptured or perforated by the forceps during this mode of delivery than any other obstetrical operation. I have seen in one patient the vagina torn away from the cervix during a high forceps delivery. In another the lower portion of the posterior wall of the uterus was perforated. Both patients died from loss of blood before proper relief could be obtained. The injury to the posterior vaginal wall and the perineum most often is so extensive that an attempt at repair is futile. Usually the average practitioner makes an attempt at the repair of the perineum and leaves the entire pelvic segment to its own fate to heal up. The result is that the patient is permanently left with a damaged pelvic floor and all the symptoms which it produces.

Practically speaking, all the plastic operations on the vaginal vault are made necessary through childbirth. If obstetrics is practiced scientifically the more extensive lacerations may be avoided, but if it is practiced indifferently the result is that our gynecological clinics are full of suffering womanhood. While it may be foreign to our subject, yet it would not be amiss to state that I have yet to see the patient upon whom plastic operations on the vaginal vault had been performed that she felt completely cured of all her symptoms of which she complained, and which were caused by these lacerations. This statement may be looked upon with disfavor by those practicing gynecology, but it is true nevertheless. It seems to me that the hospital classification of cured and uncured patients does not in a great number of cases coincide with the views of these patients as to whether they are cured or not.

The effect of high forceps on the child is too well known and hardly needs discussion. A great number are still born, others while delivered alive survive but a few hours or days. They usually die either from a fractured skull or from intracranial hemorrhage produced by the compression of the blades. It is difficult to estimate the actual fetal mortality caused by high forceps delivery as the majority of these operations are performed in private dwellings. Our Health Boards do not require a proper and scientific classification as to the cause of death. As a rule, the vague statement of "forceps" or "instruments" is a sufficient cause of death. No attempt is made to find out the kind of

forceps that were used, whether high, medium or low, and therefore nothing could be gained by inspecting the vital statistics. It would be interesting to know the actual percent of still born children that result from the use of high forceps. I am sure if same were compiled and presented to the profession, that this operation would be relegated to its proper place at least in metropolitan cities where the patient could be helped by many other surgical procedures not so harmful either to mother or to child.

It is hardly necessary to state that from a purely technical and mechanical point of view, the use of the forceps with the head high up in the pelvis is still a relic left to us from those days when the obstetrician had no alternative. The patient had to be delivered and therefore the end justified the means. At present the operation of choice should be the one that will accomplish the desired results and at the same time lessen the morbidity of the mother. The practice commonly employed of applying forceps to slightly engaged heads and commence traction with all the power the attending physician possesses, and when he becomes exhausted, the same is followed by the assistant, cannot be too strongly condemned. I know of one instance where two physicians have had six such different sittings, each time to a point of exhaustion and did not succeed in delivering the woman. One can very readily imagine what has happened to the pelvic floor in this particular patient. In another case, two physicians pulled on the forceps, the table broke down during the performance, the patient fell to the floor with the forceps locked on the foetal head. These are probably extreme examples of what is still being done, but it surely illustrates the lines along which a good deal of obstetrics is still practiced both by the family physician, as well as the specialist. The general conception that if once forceps is applied the child has to be delivered, no matter what the effect, is not only fallacious, but pernicious to the highest degree. The maternal parts are of no consideration, while the delivery is in progress. Once begun, the aim is to get through, as failure to do so places the physician in an awkward position in the eyes of the family and relatives who are generally gathered together for the coming event.

In bringing this important subject to a close, I would formulate the following principles:

1st. To avoid great disproportion between the fetal head and pelvis, the woman should be carefully examined sometimes between 32-35 of pregnancy. If the pelvis is found to be contracted labor should be induced. The time for the induction of labor is to be governed by the degree of contraction and the development of the child. Induction of labor after the 36th week is accompanied by a very small fetal mortality. The danger of sepsis to the mother should practically be nil, if it is done under proper aseptic measures or in a well regulated maternity hospital.

2nd. The actual measurement of the pelvis while it may serve a general guide is not the whole criterion in a given case of labor. It is the relation of size of fetal head to pelvis that must be considered. A pelvis which is normal during one labor if the child is small may become relatively contracted or abnormal if the child is large.

3rd. Once the position is normal, labor pains of sufficient force and the head still refuses to pass the brim, the pelvis is relatively contracted in this particular labor.

4th. The use of high forceps in the delivery of the child is not a surgical procedure, for by this operation an attempt is made to pull through a mass which is larger than the cavity it has to pass through.

5th. The greatest amount of injury to the maternal soft parts takes place during high forceps delivery, and even if repaired, the results are not always good.

6th. Post partum sepsis follows more often high forceps delivery than any other obstetrical operation, for it creates large areas of wounded surfaces which cannot be repaired.

7th. A large percent of the children are still born, or survive only a few hours or days, and the number of children sacrificed is too great, a condition we must reckon with as obstetricians. With the present development of obstetric surgery it should not take place. Methods of delivery which are safe both for mother and child should be our aim. It can be accomplished if the diagnosis is made early.

Finally I wish to state, that since obstetrics is practiced by the family physician and that it is practically the foundation of the practice of most of the physicians, that it is the duty of the physician to familiarize himself with the advances made in this branch of medicine, so that anomalies should be recognized early and proper treatment for same be instituted. Being the family physician and obstetrician at the same time, it rests with him to conserve the health of the mother and under no circumstances should he permit an obstetrical operation which produces the greatest amount of morbidity in the mother and most likely the sacrifice of the child. If I succeeded in this short paper to raise a discussion on the subject my object will be accomplished.

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VESICO-VAGINAL FISTULA.

BY

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Genital fistula—and by that is meant any abnormal opening of the urinary system, either ureter, bladder or urethra, into the vagina—is perhaps one of the worst complications we are called upon to attend in pelvic troubles, because their effect upon the patient's nervous temperament and general health is far out of proportion to the pathologic lesion, and, no matter what the cause or origin may be, the sufferer ostracizes herself from even her friends.

Fistula in the vault of the vagina results most frequently from malignant disease, either by sloughing of the cancerous tissue or by the surgeon cutting into the urinary passage while removing the diseased mass. This urinary wound is sometimes caused knowingly and sometimes accidentally by the surgeon. Fistula in the lower vagina results from: 1. Trauma, such as a protracted and difficult labor, when the bladder becomes filled and a fetal head pinches the bladder against the pelvic wall. 2. imperfect union following operations. 3. Ulcerative processes of syphilis, tuberculosis or foreign bodies. 4. Anatomical malformations, although to a small degree. It may be well to remark here that great care must be used in catheterizing a woman in labor, because a catheter used too forcibly has caused a vesico-vaginal fistula.

Symptoms. Where the lesion is the result of ulceration—that is, in post-parturient, syphilitic or tubercular cases—or where fistula is due to pressure of foreign bodies, the actual solution of the tissues that are to constitute the fistula is preceded by the development of bladder symptoms. In post-parturient patients these symptoms

may occupy but a few days, but when due to other ulcerative processes the prodromal bladder symptoms may occupy weeks or months.

At first there is irritation and congestion of the bladder wall, as evidenced by the frequent micturition and dysuria. Then develops a cystitis, with high temperature. The epithelium of the bladder next breaks down and hematuria occurs. Then finally the bladder sloughs away and the urine gushes from the vagina. From this time on the incontinence of the urine is more or less complete. The degree of incontinence depends upon the location, size and shape of the fistula. If the opening is small or high in the vagina, the incontinence will occur only when the bladder is filled or when the patient is recumbent, and not so much when she is up and about. If the vaginal outlet is intact, urine will collect in the vagina while the patient is recumbent and then be expelled when she arises. This irregular incontinence sometimes causes the woman to believe that her trouble, instead of being an abnormal opening into the bladder, is rather a lack of control of the sphincters of the bladder. This constant dribbling of the urine keeps the vagina and external genitals wet, thus causing chafing; and the urinous odor always about the woman is a great embarrassment.

The urinary salts are deposited about the fistulous opening and in the vagina, and when removed, either purposely or by the gradual breaking down of the crusts, the surfaces are found ulcerated and bleeding, and so excruciatingly tender in some cases that a thorough examination is impossible without a general anesthetic. Contraction goes on in one ulcer while crusts are forming on another place, and the opening into the bladder soon becomes circuitous.

For examination the patient should be placed in the lithotomy or in the Sims position, in a good light, either direct or reflected. The vaginal wall is now forcibly retracted opposite the expected site of the fistula, and the exposed mucous membrane is then carefully examined. If the opening is large, it may be detected by palpation or with the sound. Simon determines the size of the fistula by dilating the urethra and palpating the bladder wall with the finger. If, however, the opening is small and cannot be found by palpation, it must be located by watching the urine seep through the mucous membrane. Even with careful work it may be necessary to distend the bladder with permanganate or some analine solution, and watch for its oozing through the wall into the vagina. Sometimes, instead of finding a definite opening from the bladder, the vesical mucosa will extrude into the vagina and the urine seep through this thin wall.

Prognosis.—Having found the cause of the fistula in the first place and its location, we are now ready to consider what the prospects are for its closure, and if it does not heal, why it does not. There is a vast difference in the history of fistulae produced by incision or laceration and those resulting from sloughing, by bruising or ulceration. The former leaves a clean-cut, healthy edge, which tends to granulate and contract until the opening is closed. When the mucosa has broken down by necrosis and sloughed away, the history of the fistula is very different. The wound edges are poorly nourished and uneven. Granulation goes on at one place, while ulceration is still unfinished in another. About this sloughing mass is a region densely filled with leucocytes, which block the circulation.

The lymphatics are also filled with debris, which they are trying to dispose of. It is little wonder with such pathology that regeneration does not progress or that urinary salts incrust the surfaces. These fistulae never heal of their own accord. The condition of the surrounding vaginal walls is important. If it is fixed to the ischii by scar tissue, there is little, if any mobility. This, of course, prevents contraction of the wound edges. Then finally it must be remembered that there may be two or more fistulae, which may open into the ureters, urethra or uterus.

Treatment.—Considering the variety of causes which operate singly or together to produce the fistula in the first place, and the added conditions which always complicate the course of every case, it is very evident that we have a number of divergent indications for treatment. Each patient presents symptoms and complications so peculiar to her case that all sorts of methods of treatment have been devised, and different operators have presented an array of different types of operations. This enormous list of different ideas, all bearing on one subject, shows in itself that we have a perplexing subject, and in many instances an unsatisfactory treatment. The treatment of these cases is divided into topical treatments and plastic surgery. It is the topical treatments especially of which I wish to speak, because: 1. Many fistulae may be cured without plastic work if properly cared for. 2. Very few surgical operations cure without a good preparatory course which is practically what I outline below. 3. Many small fistulae are very difficult to find and harder to close than larger openings. I refer to those where there is a seeping through the vaginal wall without there being any well defined hole present. 4. There are a number of patients who cannot or will not take an anesthetic but who need help. Therefore in well selected cases I believe you will find this treatment valuable.

All sufferers, regardless of the cause of the fistula, should first be given a course of palliative or preparatory treatment, which in some cases will effect a cure, and in all instances, even in patients who must later submit to surgical treatment, it will greatly enhance the chances of cure by cleansing the wound area, reducing infection and unloading the lymphatics. In patients presenting recent lesions, cleanliness and keeping down of fatty granulations will assist Nature to close the opening. Boric acid or saline solution vaginal douches should be given several times daily to remove septic or necrotic masses. If a sloughing mass can be seen, it should be cut away. Fistulae of one or two centimeters diameter will frequently heal under this care, but it usually requires three to six months. If the granulations seem sluggish and the fistula is very small, the edges may be freshened and the bladder drained with a retained catheter through the natural passages for a week or ten days. Due care must be given to see that the urine is kept acid during this time, and the frequent vaginal douches prevent infection of the bladder from the vagina.

Traumatic fistula should not be treated surgically for at least two months, because under this palliative treatment many of them close spontaneously. Lime salt deposits and crusts should be removed, and the frequently repeated douches of boric acid are usually effective, or nitric acid, 1 to 4,000 may be used. Frequently ulcerations will be found under the crusts, and these must be cured before attempting any

operation. If the douching is not sufficient the ulcers should be brushed every few days with nitrate of silver solution, 5 grains to the ounce. At each vaginal douching the parts should be inspected, and if any sloughs or masses of mucus are found they should be carefully wiped out with cotton pledgets. If any scars or bands distort or stretch the vagina they must be divided and allowed to heal on the stretch. Sometimes these scars constrict the urethra and will call for thorough dilation of this passage before repairing the fistula. Where the fistula is dependent upon some other diseased condition, such as cystitis or tubercular ulceration of the bladder, the underlying causes must be corrected before anything more than palliative treatment is attempted, because no plastic operation can cure without it.

If a fistula into the rectum and another into the bladder co-exist, the recto-vaginal opening must be repaired first and allowed to heal before attempting to close the vesical sinus, as otherwise the bladder stitches would surely be infected.

There are, however, cases where treatment as outlined above will not effect a cure. When the fistula has existed for a long time, and is surrounded by dense cicatricial tissue, nothing but operative procedure can hope for a cure, or when the opening is large and high up in the vagina some very ingenious surgery is needed, and in each case the style of operation depends upon the conditions peculiar to that case. The greatest handicaps to plastic work are tension of the sutures and wound infection, and the only way to lessen the dangers of the complications is to prepare the patient by some course of preparatory treatment along the lines suggested.

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SODIUM CHLORID AND OSMOSIS AS FACTORS IN HEALTH AND DISEASE.

BY

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There are certain facts connected with the problems of health and disease that are usually overlooked in medical text-books as well as in the medical colleges.

When a physician begins the practice of medicine he encounters disorders characterized by unmistakable indications of a lack of adequate elimination of waste products. Even without text-books, instruction or lectures on the subject, he at once recognizes the condition and prescribes eliminants in some form. By seeming common consent, rather than a conclusion reached by scientific data, this condition is termed "biliousness," a term said to be unscientific, being scarcely honored as a theme for a book, a chapter or a page. Yet it forms the basis of a very large majority of the prescriptions written by physicians. It matters little what the diagnosis may be, there is the element of sub-elimination that prompts the physician to stimulate the emunctories. In fact, there are a great many cases coming for treatment in which no definite diagnosis is made; and often the patient is informed that he is suffering from a "bilious attack," and a laxative, a diuretic, a diaphoretic, or other eliminative drug is used, or some remedial measure that stimulates excretion is employed. I am prompted to make the explicit statement that 90 per cent. of physicians' prescriptions, and an equal measure of remedial methods other than by the use of drugs, are for the purpose or have the effect of promoting the discharge of waste and food surplus from the body.

The symptoms of this condition of sub-elimination are recognized universally as a coated tongue, indifferent appetite, irregular stools, fetid breath, abdominal tenderness or pain, usually with enlargement, highly colored or variable urine, insomnia or drowsiness, inability to fix the mind, headache, backache, neuralgias, general muscular tenderness and lassitude, aching of the limbs, "that tired feeling," and so on.

Little more space need be devoted to this matter as it must be apparent that this is not a fancy, but a fact. Facts are stubborn things. Regardless of the theories of therapeutic measures, whether drugs, hydrotherapy, electrotherapy, dietotherapy or what not, the object sought is stimulation of the emunctories. Then if it is a fact that the necessity exists for stimulation of the emunctories in the vast majority of cases coming up for treatment, would it not be wise to try to find the underlying cause or causes leading to this lamentably prevalent disorder of civilized humanity?

A field of medical research scarcely yet explored is this field. To the parent, the preservation of the physical well-being of the child is a matter of consuming importance. To the physician this problem appeals as to no other person, except the parent. The parent has a right to look to the physician for such instructions as will enable him to protect the child from derangements during childhood, that will result in physical imperfections in adult life. Another fact in this connection that must be recognized, viz., if children could be spared "bilious" attacks or digestive disorders doctors would never be called to attend a child except for injuries and infectious disorders. Is this heresy? It may be, but is it not true that 90 per cent. of physicians' services to children are for digestive disorders or their results?

The purpose of this paper is to offer some explanation for this sad state of civilized man's health as compared with that of wild tribes and animals. The fact that primitive man enjoys a physical condition far superior to that of his enlightened brother, I hardly think anyone will attempt to deny.

I take it for granted that the physiological processes are the same in a cultivated white man and a savage, and that the superior working of these processes in the savage over those of the white man are due to definite differences in the osmotic state of the circulating fluids, and in no sense to the indefinable state said to be "Nature." It is hard to conceive of any process of assimilation or disassimilation that is influenced by the character of a man's mental training. Take the skin and the head off and the black man or the red man or the yellow man is identical, physiologically, with the white man.

The basis of the argument attempted in this paper in explanation of these lamentably prevalent disorders refers to the osmotic tension of the circulating fluids. In this connection two fundamental facts must be kept constantly in mind; namely,

1st. The law of osmosis, by which solutions of different densities are equalized. This law is as immutable as the law of gravity and is operative under all circumstances.

2nd. The fact that saline solutions are absorbed in a ratio inverse to their density.

Keeping these facts in mind, it is clear that to expect the most efficient working of the cell, it must be surrounded by a medium of equal saline density with the cell itself. In other words, if the surrounding plasma or serum, as the case may be, is of a density under that of the cell, the

cell will absorb water and swell. While, if the plasma or serum is of a density (due to the presence of soluble crystalline substances) greater than that of the cell, the cell will give up some of its water and shrink. Right here is a variation in the operation of the law of osmosis that must be recognized: The cell constituents must bear a definite proportion to each other or the vitality of the cell is endangered, just as a definite chemical proportion is imperative to the maintenance of identity. Hence the cell will not equalize the saline density with the plasma or serum by giving up its osmotic constituents. If it did its identity would be destroyed. The plasma or serum must hold the crystalline material in solution until the emunctories can discharge the surplus, because the cells will not take on a surplus of crystallizable materials. The cell will give up some of its water and suffer shrinkage, but will not take crystalline matter that does not belong to it. This question has a practical bearing, for it is quite evident that a swollen cell or a shrunken cell can not perform its functions efficiently. And when it is borne in mind that all metabolic processes are performed by and through cells, it should be plain that efficient physiological action can not be carried on in the presence of hypotonic or hypertonic osmotic tension. It must also be clear that when the fluids are isotonic with the cells that there must be unhampered interchange of nutrient materials and waste, that a condition of physiological equilibrium exists, in other words, health. And it should be equally apparent that health can not be maintained when nutrition is hampered by osmotic disturbances, and when nutrition is lowered that various tissue degenerations are prone to occur, and pathological germ invasion must be expected.

The claim that osmotic hypertension exists only in exceptional cases can be easily disproven by an examination of the usual diet tables, and the further fact that the very disorders that this state would produce actually exist in 95 per cent. of the masses of Europe and America.

So far we have assumed nothing. The statements made are facts, not theories. The writer is not unmindful of the fact that there are many factors contributing to the deplorable state of civilized man's health, the wisest and unhealthiest animal in creation. But that a condition of hyperosmotic tension is the chief factor in the production of bilious attacks and other disorders of digestion and nutrition is so plain, and lends itself to such easy demonstration, that it seems strange that medical observers have failed to give it the recognition its importance demands.

Not all osmotic action depends upon inorganic mineral crystallizable matter in the circulating fluids. Organic salts of animal origin contribute also. But by far the most active osmotic agents are of inorganic origin. And largely because of their small molecules and extreme solubility, the halogen salts are found to be very active osmotic agents. And, among this class, none is found to compare with sodium chlorid.

This salt exists in all organized bodies, and is found abundantly in the inorganic state. Even in the organic form it has not been shown that it forms a constituent part of the cell, but pervades the circulating fluids and prevents the solution of the cell by holding the requisite amount of water in the cell that its nature demands to keep

it in proper activity. Calcium and potassium salts form a constituent part of all cells, while iron is found most abundant in the red blood cells. It may be observed in passing, that inorganic mineral salts are transformed into organic compounds in but one place in all nature, namely, the leaf of the plant. The plant takes up from the earth inorganic matter that is brought under the peculiar digestive powers of its circulating fluids, in the presence of light and atmospheric gases, and it then only becomes capable of cell construction. It has been abundantly demonstrated that inorganic iron does not go to form hemoglobinic iron, but is cast out of the body in a form that is still inorganic. The same may be said of lime, phosphorus, sulphur, soda and potash, our previous medical teaching to the contrary notwithstanding. To build cells, organic materials must be used, for they cannot be constructed in the animal body out of earthy matter. This bears upon the custom of using sodium chlorid derived from the inorganic world as a food. It is universally taught that this inorganic salt is necessary as a food condiment and that without it the body can not be sustained in health. It is also taught that nutrition suffers from its deprivation. How true these claims are may be inferred from the fact that the American Indian used no salt with his food for centuries and still maintained a physical condition far superior to his wise white brother. And also by the further fact that our standard text-books on physiology teach that 95 per cent. of the inorganic salt is expelled from the body in less than twenty-four hours, more than half leaving the body in twelve hours, absolutely unaltered. And also by the further fact that there are living today, in our own country, many persons who have not only survived years of salt deprivation, but have actually found health improved by its disuse. The writer is one of them. So in considerating the rôle of this salt in physiological processes, the organic salt found in all foods should alone be considered as taking part in nutritional processes, and that all inorganic sodium chlorid should be regarded as foreign and detrimental. This expression may be softened by saying that the less used with food the better. The reasons are these:

1st. Salt with food to the extent of over 0.65 of one per cent. causes an inhibition of the production of all digestive fluids.

2nd. Retards absorption.

The first proposition is based upon facts demonstrated by Edkins, Achard, Hetzen, Leresche, Riechmann, Girard, Wolf, Hayem, Boaz, and others.

The second proposition is based upon the fact that saline solutions are absorbed in a ratio inverse to their density. Flint states that distilled water is absorbed more rapidly than water containing in solution crystalline substances.

These facts ought to make it plain that the best condition for rapid and complete digestion, considering both the secretion of digestive fluids and absorption, is one in which inorganic sodium chlorid is absent.

The reply has been given that few people use habitually a harmful excess of salt. These are the facts: The ration to the United States soldier, per diem per capita, is 16/25ths of an ounce, more than half an ounce, 20½ grams, 307 grains, a heaping tablespoonful. Achard states that the average daily consumption per capita of the French people is 20 grams. It is fair to take the ration of our own soldier and marine as the criterion of the average amount consumed by our own masses.

According to Flint and other physiologists, all of this 307 grains is cast out of the body, but 15 grains, inside of twenty-four hours, unused and unchanged. To the unconvinced, then, this 15 grains is all that is necessary to health, but have they any proof that it is assimilated? It is more likely that it is lost in estimating the output.

The claim recently made by a prominent author of a text-book on dietetics that the five pints of water ingested daily made it imperative to also take at least nine grams of salt to maintain the osmotic equilibrium. Theoretically this is true, but practically it is disproven by the actual practice of whole nations of primitive peoples and many of our own people who do not use it, and by the countless thousands of animals that never taste it.

At any rate, the proportion of inorganic salt to food in the usual diet is approximately 18 to 1000, or nearly 2 per cent., to which should be added the amount of organic salt found in food, about 4 to 1000, giving 22 parts—dangerously close to sea water, 27 parts to 1000. The blood contains about 4 parts to 1000—the food 22 to 1000. Is it not plain that this excess of salt must produce a condition of hypertension and that digestion and nutrition must suffer in consequence? I must confess I do not know how to make it plainer. If my figures are wrong, call me to task and I will gladly revise them.

As might be expected from such a state of hyperosmotic tension, the glands are the first to suffer. This is because the cells—the active elements of a gland—are laboring under a condition of starvation. They are starved for water because they have to give up a part of it to dilute the denser fluids about them; hence can not work to full efficiency. And the doctor prescribes excretory stimulants to spur them to renewed action. The whip does not give the tired horse renewed strength. Widal, Oertel, Karell and others have abundantly shown the deleterious effects on the circulation and the renal cells of a habitual excess of water. Water in excess can only remain in the system as a result of osmotic demands. The increased activity of the emunctories under conditions of low osmotic tension soon reduces the water excess to the normal, and edema is an impossibility. Edema can only exist when inorganic or katabolic crystalline substances are held in solution in excess. This condition is brought about by a diet too rich in mineral organic elements, augmented by the addition of inorganic sodium chlorid.

Levy (Berlin) has shown that salt retention (renal) is due to the inability of the renal epithelium to excrete the salt, and that it sometimes requires several weeks of salt deprivation to restore the renal permeability, and permit the casting out of the damaging surplus; and that a copious discharge of water accompanies the salt, causing the edema to disappear. Observers of the Widal class have continually overlooked the fact that general anasarca is the ultimate outcome of a tissue serum stasis that has existed previously.

Rabagliati has clearly pointed out the importance to nutrition of the state of the cellular spaces. He regards them, taken as a whole, as but a large lymphatic gland, as the principal medium by and through which all nutritive processes take place. It is the safety valve of the circulation, relieving undue arterial tension, supplying fluid with which to refill the blood vessels when blood escapes through traumatism,

holding in its fluids, crystalline adventitious food constituents and waste products. It is also endowed with sensation. When in a state of irritation caused by irritating saline or other substances held in solution, or unduly distended by surplus fluid, it becomes painful. This sensation is augmented to a feeling of pain, or soreness, or aching, very frequently "that tired feeling" so much referred to; the achy, tired distresses so often complained of; the feeling of tenderness experienced on pressure of the muscles everywhere; the mental depression and muscular lassitude are but a few of the symptoms of irritation of the cellular tissues, to which he has given the name "initis." That it is frequent is undeniable. That it is due primarily to adventitious substances derived from the food and retained waste is recognized by all practitioners of medicine. This is shown to be a fact by the universal use of eliminative measures and drugs.

The deleterious effects of salt are not confined to disorders of the circulation and of the kidneys. Indeed, these are but sequences to disturbances referable to the digestive tract and nutrition. Assume that digestion and nutrition are right, and it is plain that there can be no disorders of the circulation or of the kidneys. The disturbing effects of hyperosmotic tension are shown in digestive disorders because when the contents of the digestive canal are of an osmotic density greater than that of the blood there must inevitably result an exudation of serous fluid, thereby retarding or impairing glandular action and digestion. This condition of slight digestive disturbance repeated daily must result in progressive lowering of nutritive processes, which are shown in various visceral and local disorders and degenerations. Hemorrhoids could never exist but for hepatic obstruction. Nephritis could never occur but for the irritating materials brought to the organ for excretion absorbed from a bad state of the intestinal contents. Arteriosclerosis could never occur if the walls of the blood vessels were properly nourished and were kept free from daily overstraining due to hypertension.

It would make this paper too long to take up the discussion of the relative mineral salt content of the many articles of diet in common use, yet I would urge those interested in the questions connected with health preservation to fix in their minds the mineral density of the blood plasma and compare it with the mineral content of common foods. The mineral density of the blood must not be exceeded. In the matter of sodium chlorid, I. Leva, of Berlin-Tarach, has published some very instructive data. Of forty-one articles of food in common use, comprising meats, cereals, eggs, milk, vegetables, fruits and the pulses, the normal content of organic sodium chlorid is shown to average 2.326 per cent., though this list includes some salt cured meats and fish. It is generally accepted as a scientific fact that normal salt solution is 0.65 per cent. in density. Now pray how can osmotic equilibrium be reconciled with these figures? Is it not inevitable that an outward flow of serum must take place in the presence of opposing fluids of such differing densities? Then, if you please, add to this the usual allowance of inorganic sodium chlorid; and is it not a wonder that the salt using race has ever endured?

Some experiments done at the Colorado University by Dr. T. Gage Clement, at the writer's request, in artificial digestion bear out the contention that beyond a saline density equal to the normal salt solution,

digestion is prolonged; that is, the interference of the presence of salt, aside from its osmotic action, hinders instead of promotes digestion.

Digested in:	NaCl Absent	NaCl 2-1000	NaCl 4-1000	NaCl 6-1000
Fats with pancreatin,	5 hrs.	4 hrs.	4 hrs.	6 hrs.
Proteid (hard boiled egg white),	6½ hrs.	3¾ hrs.	4 hrs.	6 hrs.
Proteid (same with pure pepsin),	5½ hrs.	4 hrs.	4 hrs.	6 hrs.

"In all of my experiments I used 15 cc. of the digesting fluid and 1 gram of the fat or proteid to be digested, placing them in an incubator at a constant temperature of 40 degrees centigrade."

That this question of the osmotic state is of real importance ought to be clear from a consideration of the total ash milk content of the various animals as compared with that of man, and should indicate in unmistakable terms, the proper ash content of man's food. The following are the totals of ash in the milk of the animals given, parts for M:

Man	Horse	Cow	Goat	Sheep	Dog
2.319	4.17	8.374	10.405	10.97	13.53

Will anyone seriously argue that man can stand an ash content in his food that equals or exceeds that of mother's milk? The infant needs a far greater amount of ash than the adult because of the demands of growth. As age advances, man needs less and less of earthy matters, particularly lime, because of their inherent tendency to accumulate and exert their osmotic drying effect by abstracting water from the cells.

Sometime the writer hopes to report quite a list of cases that he has treated on the principles of lower osmotic tension and the success he has achieved fully warrants the conclusions he has drawn. These cases include indigestion, gastric and intestinal, persistent biliousness, constipation the most obstinate, nocturnal enuresis in both adults and children, cystitis, nasal, pharyngeal, bronchial and uterine catarrh, periodical suppurative tonsilitis, headache, neuralgias, insomnia, mental depression, and obesity. These cases have recovered on a saltless diet combined with a food selection on the basis of low mineral content, with the prime idea of lowering osmotic tension; that is, keeping the foods at as nearly the mineral strength of the blood as possible, thereby lowering arterial pressure and the obstructed capillary circulation.

In the selection of medicines, he has been guided by the same principles. For instance a "tonic" that pleases all because it helps them to feel better, is composed of aconite, gelsemium, bloodroot, glycerine and water. This dilates the blood vessels and gives a freer arterial and capillary circulation, thereby promoting metabolic processes, removing tissue serum stasis, and aiding oxidation.

Another standard combination is equal parts of sodium bicarbonate and powdered rhubarb.

Based upon the idea that most common internal disturbances are manifestations of circulatory disorders due to a contracted state of the blood vessels and the high osmotic tension whereby the red cells are rendered deficient in oxygen carrying powers, vaso-motor dilators like the above are called for, for the purpose of temporarily reducing the blood pressure and thus relieving mechanically the oppressed circulation. Elimination is thereby encouraged, and it is a fact of easy demonstration that tonics constructed upon this the-

ory actually in practice do good—so much good that this tonic is gaining a wide-spread reputation in my field of practice.

There are no supposed reconstructives in this treatment, but it conforms to Bartholow's classification in which potassium iodid and other classical tonics are called "remedies promoting waste."

The basis of sound nutrition is a free circulation of efficient oxygen carriers and an unobstructed capillary circulation. And it should be very plain that red blood cells that are exhausted by high osmotic tension can not be efficient. And is it not a fact that suboxidation is at the bottom of all nutritive deficiencies? Plenty of fresh air and deep breathing help materially, but these measures alone can not and do not restore lowered nutrition. I deny that a principal diet of protein foods is the cause of the uric acid diathesis. It is sub-oxidation. It is true that a heavy protein diet in the presence of sub-oxidation tends to uric acid accumulation with its train of painful and other distressing symptoms, but this is the fault of uric acid surplus, due to sub-oxidation resulting from high osmotic tension; and its relief demands, not stimulation of the emunctories except for temporary relief, but such remedies and diet selection as will reduce the amount of osmotic agents, rather than a uric-acid-free diet. The milk cure and the grape cure accomplish this; Oertel's lowered diet does it, as does also Rabagliati's fasting; Widal's salt-free diet is in logical conformity with this idea; the hydropathists do it by stimulating the skin; Von Noorden does it by systematic replacing of food ingestion with very weak saline waters—though distilled water would give speedier relief; Fletcherism does it by reducing the intake of food and consequently the demands for diluent. And so on through the whole list of diet reforms, whatever method reduces the amount of foods ingested also reduces the intake of diluent and lowers arterial pressure, and helps to restore the osmotic tension to the normal. Not only is sodium chlorid an active osmotic agent but all crystalline products of katabolism also exert energetic influences in this direction. Uric acid, as the example of this class, has been exalted by Haig, in which he has made the seeming mistake of attributing to the presence of uric acid alone, the symptoms of rheumatic complaints, when in fact, artificially prepared uric acid can be ingested in large and repeated doses without manifesting the symptoms coincident with katabolic uric acid diathesis. *It is the condition* which inhibits uric acid oxidation, not the uric acid itself, that causes the trouble. And other conditions that inhibit oxidation cause the same symptoms of disorder. That the mere surplus of proteins in the diet is not the cause, is amply demonstrated by the habits of the American Indians for centuries in living almost solely upon a meat diet and remaining free from rheumatism, catarrh, constipation, biliousness, and other ailments of purely internal origin. In this connection it should be borne in mind that these people did not use salt, hence their osmotic tension was not high.

I advocate a diet low in mineral content for adults, and for infants and children a diet with a total mineral content not exceeding mothers' milk.

January 1, 1911.

MEDICAL HINTS.

IRRIGATING MEMBRANES.—Sixteen grains of salicylic acid and 96 grains of boric acid dissolved in a pint of sterile water makes Thiersh's Fluid. This is useful for cleansing serous and mucous membranes, such as those of the mouth and eye, and it may be used for any purpose where irrigation is employed for cleansing purposes.—*Ex.*

ACUTE NASAL DISCHARGE IN CHILDREN; DIAGNOSIS AND TREATMENT.

BY

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Rhinitis, whether acute or chronic, is one of the commonest disorders of early life. There are several predisposing causes which make the child particularly susceptible to it. Five such factors are more or less in evidence:

(a) The age; the younger the child, the less active need be the exciting cause of rhinitis.

(b) Lowered vitality, especially if dependent upon nutritional defect.

(c) Hereditary influences, including malformations of the nose.

(d) The presence of pathogenic bacteria.

(e) Exposure to atmospheric change, which is the least important of all the factors.

The disease in the acute form usually begins with an attack of sneezing, which is gradually followed by a sense of stuffiness in the head and a peculiar dry and irritable condition of the mucous membrane of the nose. Within a few hours there appears a profuse watery discharge, which, as a rule, is very irritating, producing redness or excoriation at the edge of the nostril and upon the skin over the lip. This may be followed by a muco-purulent discharge, some interference with the senses of smell and taste, and slight fever. Frequently the occlusion of the nasal passages is such that mouthbreathing becomes a necessity, resulting in a distressing dryness of the throat. This may lead to a secondary pharyngitis and laryngitis.

In nurslings the first evidence of the disease is usually given by the child attempting to nurse, leaving the breast with a cry, and immediately returning to the breast, only to have the same performance repeated all over again. This is occasioned by the fact that the occlusion of the nose interferes with free nursing and the child rebels.

The duration of the disease is from a few days to three weeks.

The diagnosis presents practically no difficulty. Where the difficulty is experienced is in assigning the cause. Especially inclined to attacks of acute rhinitis are those children who are brought up like hot-house plants, being more or less confined in overheated rooms. When a history is obtainable, as is most frequently the case, it is that the child takes cold easily and that it always affects the nose, and under such conditions we are justified in suspecting that a chronic rhinitis exists, and that the acute attack is merely an exacerbation. It is very unusual to see the case so early that there is not some chronicity about the disease.

An acute rhinitis occurring in an infant a few days old, with a nasal discharge which is purulent from the start, should at once arouse a suspicion of gonorrheal infection. If, associated with it, there is a blennorrhagic conjunctivitis, the diagnosis is practically certain; but in the case of a reasonable doubt, recourse may be had to microscopic examination of the discharge. The denial of the occurrence of gonorrhea in either parent is of no value.

Acute rhinitis occurring with an associated catarrh of other organs is an evidence of the general ill health of the child. It occurs with almost uniform regularity in the pre-eruptive stage of rubeola, and at the onset of influenza, pertussis, and bronchitis.

Inhalations of irritating vapors or of certain chemicals (chlorin, bromin, hydrochloric acid) may produce an acute rhinitis, and saturation of the system with iodin often results in the disease, the discharge having a peculiar fetid odor.

Treatment: (Acute Rhinitis). Prevention depends almost entirely upon the maintenance of good physical health through the processes of general hygiene, diet, clothing and cold sponge bathing. The chief protection, however, is offered by the avoidance of exposure to infection and, therefore, each case should be properly isolated although the isolation need not be so strict as to occasion undue alarm or discomfort. However the isolation should be quite strict as regards the protection of infants under the age of two years.

Cleanliness of the nose is a prime essential in the management of any nasal affection and this should be accomplished in some manner.

Local treatment involves such measures as are reasonably certain to limit further extension and which result in amelioration of the distressing symptoms.

Syringing should not be done unless it can be properly carried out by a more or less skilled attendant. More injury than good is usually done by syringing as it is commonly carried out by the inexperienced. If syringing is used, there is nothing more effective than the normal salt solution for cleansing the surfaces and preparing them for other applications. If desirable to use an astringent after the cleansing sulphocarbonate of zinc may be used in the strength of 5 grs. to the ounce.

The danger of infecting the eustachian tubes and other parts is always great unless the syringe is in skilled hands and therefore as a routine method it should be abolished.

In the beginning of an attack the application of a plug of absorbent cotton saturated with adrenalin solution and placed within the nostril for three to five minutes (and this done alternately to each nostril) will bring prompt relief. This may be repeated within three to six hours as needed.

Better than syringing for cleansing the nose is the application of borated vaseline to the nostrils, for the application is quickly done and promptly excites sneezing which effectively clears out the nares.

A splendid local application is one composed of menthol, resorcin and camphor, of each 3 to 5 grs. to the ounce of white vaseline. This may be applied every two or three hours, in the nostrils. The upper lip should be protected against excoriation by the application of some preparation such as cold cream. In the later stages when the discharge tends to persist, it may be advisable to use a drop of one-half per cent solution of nitrate of silver occasionally. This should only follow a thorough cleansing of the nose.

The general treatment involves that of the underlying cause if it can be determined definitely. The child should be confined to the house at least, and better to the bed also, and the air of the room rendered moist. The temperature of the room should be between 65 and 68 F. and maintained at that point day and night.

Restriction of the diet is essential, so that the child need not be encouraged to partake of food. The bowel should be freely opened.

The medical treatment is minor, although great comfort is derived from the administration of tincture of hyoscyamus in rather large doses. If the case is seen very early, bicarbonate of soda 10 to 30 grains in water every hour for four doses and then every three hours will often abort an attack. Hot mustard foot baths, sweating, and the various inhalants are too uncertain in their results to temporize with.

The treatment should be prompt and vigorous in every instance but this is emphasized in the case of very young or delicate children. One is never certain that the process will be arrested as a simple acute rhinitis because it is a common experience to find that acute bronchitis supervenes and an acute bronchitis in the infant or the delicate child should always be treated as the possible beginning of a fatal disease.

Adenoid Vegetations: It is very common to find that this is the cause of the occasional attacks of acute rhinitis, and the condition is more apt to be evidenced in this form than in the form of a chronic rhinitis. Chronic rhinitis may be present but it is not self evident, the careful taking of a history being necessary to bring the fact out.

Adenoids may be present so that they can be appreciated as early as the second month of life. This is unusual, however, for the time at which they are most in evidence is between the third and fifth years. It is so frequently the case that enlarged tonsils are associated with adenoids that the presence of one should lead to a suspicion of the presence of the other. The symptoms are usually quite typical. Certainly after observing a number of cases one is usually able to diagnose the condition by the appearance of the child alone. I am not advocating this method of diagnosis however, but simply stating what is a fact. A thorough examination should be made in every suspected case.

The facial expression is quite characteristic; it is somewhat dull and the open mouth, the thickened lips, the absence of the groove over the alae nasi, the pinched appearance of the nose, and the prominent transverse vein at the root of the nose complete a picture which is simulated by no other condition. There is an inability to blow the nose when the growth is large, and as a result the nostrils are obstructed by mucus. The voice assumes a nasal twang in many cases.

When the history is taken, it reveals the fact that the child is very restless at night and takes cold very readily. If the adenoids have been long present, there is more or less abundant evidence of stunted physical and mental development. Reflexes are as varied as is the susceptibility of children to certain impressions. Some of these reflexes are epistaxis, incontinence of urine, cough, muscular spasms, muscular twitchings, stammering, sudden and transient deafness, etc. Deafness of a permanent nature is sometimes an associated condition.

The examination is so simple that it is a wonder that it is not more commonly practiced. Upon an inspection of the mouth it is found that the hard palate is more arched than normal, and that the secondary teeth are irregular and inclined to project. When the tongue is depressed, the posterior pharyngeal wall is observed to be covered with a thick white mucus which flows down from the naso-pharynx.

An examination should then be made of the naso-pharynx. To accomplish this, the examiner takes a position behind and somewhat to the right of the child, who is seated upon a chair, or better still, held firmly upon the mother's knee. The left hand of the examiner firmly restrains the head by pressing it against the left side of the examiner's body. When the child's mouth has been opened, the left cheek is forced by one finger of the left hand into the mouth and between the teeth, thus preventing closure of the mouth. The examining finger is then carried rapidly into the mouth and turned upward to the naso-pharynx, being carried back of the soft palate into the naso-pharyngeal cavity.

If adenoids are present, instead of the thin mucous membrane normally covering the bony structures, one encounters a soft mass, the feel of which is not unlike that of a mass of worms. When the finger is withdrawn, it is generally found to be covered with blood and tenacious mucus. I must emphasize the fact however, that the presence of blood on the finger has no distinctive diagnostic value; its absence does not exclude adenoids.

Adenoids might be mistaken for a polypus, but the chance of such an error is so slight when an examination of the naso-pharyngeal cavity is made by the finger that it need not be considered.

Until a suitable time for operative procedure, the general treatment is one of strict attention to the general hygiene, out of door life in an equitable and dry climate, strict cleanliness of the nose and throat, and the performance of proper breathing exercises through the nose.

Painting the naso-pharynx every second day with a mild astringent solution gives considerable relief.

An operation is necessary whenever the growths result in persistent mouth breathing.

Membranous Rhinitis: This is an acute inflammation of the nasal mucous membrane accompanied by the formation of a membrane. The membrane is grayish white, and if removed early in the disease, it leaves a raw and bleeding surface. More or less marked obstruction of the nose is usually the first symptom, but this results in mouth breathing with its long train of consequent symptoms. One peculiarity of the nasal discharge is that it is scarcely irritating, and this serves to distinguish it early from acute rhinitis. The examination shows that one or both nostrils are filled with a tenacious mucus, and its presence should lead to a thorough cleansing of the nose and a search for membrane.

Frequently there is some difficulty in examining the nares of a child, and if the tenacious mucus filling the nostrils (which has been described) is present, the administration of a few drops of chloroform or ethyl bromid is justifiable. After dilating with a nasal speculum, the nostrils are cleansed, and then the extent and situation of the membrane can easily be determined. Care must be exercised to determine the presence of a foreign body, for this is often the cause of the formation of a membrane. With a pair of small forceps the tenacity of the membrane is tested, but the whole procedure must be gently done. Late in the disease the membrane is removed without any bleeding and with little effort; early in the disease more force is required and there is some bleeding.

First of all we must exclude the effect of the use of a caustic in the nose, the introduction of a foreign body, and an injury; and when that is done, then the diag-

nosis will rest between this form of rhinitis and nasal diphtheria. In the latter the discharge is early tinged with blood, although the amount may be very small. The glands of the neck are somewhat enlarged and tender and there is apt to be more or less fever.

Associated with the nasal condition, there is usually evidence of the disease in the tonsils, the pillars of the fauces or in the naso-pharynx. The discharge is irritating to the parts it touches. In membranous rhinitis the discharge is not irritating to the skin and is not blood tinged unless some violence has been used. The temperature is normal, as a rule. Despite the fact that the diagnosis is usually easily made from the symptoms alone a culture should be made in every case and the presence or absence of the Klebs-Loeffler bacillus determined. The treatment is always by the use of antitoxin in proportionately large dosage and strict attention to securing cleanliness of the nose and throat. Isolation must be insisted upon. Such cases must always be regarded as instances of nasal diphtheria despite the fact that the clinical manifestations are such that differentiation seems possible. The results of bacteriological examinations have proven that these cases are nearly always due to the Klebs-Loeffler bacillus.

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THE HYGIENE OF GROWING GIRLS.[1]

BY

JOHN COWELL MacEVITT, M. D.,

Gynecologist to St. Mary's General, and St. Mary's Female Hospital; Coney Island Hospital; and St. Joseph's Hospital, Far Rockaway.

The hygiene of the adolescent girl, the subject upon which I have been requested to address you, presents a wide field for study embracing as it does the mental, moral, and physical attributes of the girl passing through the gateway of childhood to young womanhood. A complete presentation of the subject would require a series of lectures to do it justice. With the limited time at my disposal I will be unable to do more than briefly consider the elementary precepts governing the laws of hygiene in its relation to the maintenance of health and not to specific instances of disease. To make the subject interesting and at the same time practical it will be of necessity somewhat superficial. Do not in consequence of this lose sight of the deeper and more important laws of health and disease and their application to young womanhood to which I will but incidentally allude. I desire to impress upon your minds with what convincing power I have that the greatest epoch in the life of a woman is the space of time between puberty and adult life. It is the formative period of physical and mental development resulting in a normal or abnormal woman. I am not a believer in the theory of the survival of the fittest in civilized communities, but in the survival of the reasonable being who lives a well ordered life. The mind and body are interdependent and must grow in unison and harmony to produce that perfection in woman which enables her to properly fulfil her destiny—motherhood. The adolescent girl is the school girl. It is the tendency of the present day to develop the mind at the expense of the body. I am not unmindful of the fact that within the last few years there has been an awakening to this error. An equilibrium must be established between the mental and physical growth or

[1]Read before the "Public Health Education Committee," March 22nd, 1911.

ill health will be the sequence. Nature is lavish in her elemental gifts but lavish and miserly in turn in her bestowal of spiritual and material gifts. Heredity and environment place an equation upon each individual and herein we find the inequality. For example, one girl emerging out of puberty is the personification of health, vigorous, active, full of the joy of living, possessing a strong and keen mentality; the other ill developed, ill nourished, anemic, irascible, self centred, ambitionless, purposeless, useless. The observance of hygienic laws is necessary to both. In the case first cited it preserves, in the second, it conserves and develops. Both classes are to be found in the higher and lower stations of life awakening from the dormant innocence of childhood into a new strange and mysterious existence with every faculty augmented, every emotion intensified and where instinct mantles the cheeks with the roseate blush of modesty.

Personal cleanliness is an evidence of culture. The fisher woman will wash her face—Aphrodite rises from her bath a goddess. A daily ablution of the whole body is conducive to good health; it opens the emunctories of the skin permitting the impurities of the blood to escape. A feeling of exhilaration and well being follows. In homes where there are bathrooms, taking a bath is an easy performance; where there are none, the wash tub or pan with privacy will suffice. In the crowded tenement houses of the poor where privacy is well nigh impossible this function is generally neglected. In the morning after arising is the best hour for bathing, but where the family is large, the most inconvenient one. Where this inconvenience exists bathing in the afternoon or evening will answer as well. A bath once a week is obligatory. The temperature of the water should vary with the vigor of the individual. A strong robust girl will find a moderately cold bath agreeable, a delicate girl with poor circulation should confine herself to a warm or tepid bath. In all cases a thorough rubbing with a turkish towel should follow until a ruddy glow suffuses the skin. A small amount of borax in the water is preferable to any amount of soap. Massage of the face with the palm of the hands after bathing stimulates the skin and prevents blackheads and pimples. A warm bath upon retiring has a calming effect upon the nervous system and produces sleep. A peculiar odor emanating from the body is often a source of annoyance that is due to a putrefaction of the perspiration. An alcohol bath with massage will cure this condition. In no case should a cold bath be taken just before or after the periodic function. Warm bathing is at no time harmful. No matter what may be the character of the bath the bathroom should be warm and free from draughts.

A present fad with girls is to wear as few undergarments as possible, in the belief that it renders them strong and rugged; reasoning thus they wear light weight underclothing adaptable for summer use the year round. With the great and varying changes in our climate this practice is undoubtedly harmful and conducive to inflammatory and catarrhal diseases of the air passages. After the first frost in the fall of the year woolen or cotton and woolen mixed material should be worn next to the skin until the return of the assured warm days of May and June. The weight of the garment depends upon the constitution of the wearer. To the anemic

girl warmth to the body is imperative and medium or heavy weight woolen garments should be selected. In the fall, spring and winter months, the clothing habitually worn should not be abruptly changed for special occasions. Society demands that the dictates of fashion be followed and to conform to this dictation when attending receptions, balls, and other places of amusement, decollete gowns, thin stockings and light shoes or slippers are exchanged for those of a heavier and warmer character. From the cold air of the auto, carriage or street car, to the superheated air of the ball room or theatre for a number of hours and then back again into a temperature perhaps twenty degrees lower is fraught with danger unless the undergarments are of a character to properly protect the body from the invasion of the cold air. That I should suggest a new style of garment for these occasions of exposure may cause you to smile; notwithstanding, I would advise the wearing of a loose woolen jacket reaching from the throat to the hips—buttoned in front, the sleeves to be long, made so that it could be easily adjusted over the evening dress. Fur garments are too heavy and you must know from experience what a causative influence they are in producing sore throats and colds. The opera cloak does not afford proper protection to the bare chest and arms because its loose folds permit the inrush of the cold air. You will admit that the wearing of unreasonable garments is productive of various forms of so-called colds, so often the precursors of serious diseases by lowering the resisting power of the sufferer to the attacks of the invading germs and from a simple local disease a systemic one is the result, involving the most important internal organs. This applies particularly to certain epochal periods when through exposure a sudden chilling of the skin surface, normal functions are interfered with and functional diseases produced oftentimes become chronic. Let common sense then guide you in the selection of your wearing apparel, conform to fashion and custom but have courage to avoid the freakish absurdities of the former.

Food: Thrice blessed is the girl with a good appetite and who can, like her big brother, assimilate what she eats. The appetite of most girls is capricious; she picks, chooses and refuses. This is due to her sedentary habits and lack of exercise in the open. Her brother after a game of ball will at the dinner table eat everything served with a ferocious avidity, while she returning from a friend's house after partaking of cake and tea has but little appetite for her dinner. She watches with disdain her brother's onslaught upon the viands and tells him that he is horribly vulgar to eat so much and so fast. It is at this period of adolescence that relatively more food is required in order to sustain the expanding vital forces of growth and repair. I will not speak of the proportional amounts of the elemental food stuffs requisite. The use of coffee and tea has become so habitual that they are now, though erroneously, considered among the necessities of life. To the growing girl they are harmful. If used they should be well diluted with milk or cream which will in a manner compensate for their deleterious effects. The principal meal should be eaten at midday but custom in this country in commercial centers at least prescribed it for the evening. The student should if possible eat her luncheon at home or have it prepared at home for consumption at school instead of dining

upon cakes and sweetmeats in bakeries and restaurants adjacent to the schools. It is a pernicious practice and destructive to good digestion. Water should be used sparingly at mealtime and never ice cold as it inhibits the process of digestion. The more thoroughly the food is masticated the better it is assimilated. A short period of mental and physical rest before and after meals is beneficial. Male and alcoholic liquids should never be used by the growing girl. The reasons are obvious. Contrary to popular opinion broths and meat extracts contain but little nutritive value. They consist mainly of the soluble salts of the meat and the food constituents of the meat fibre is discarded. Their property is that of a stimulant, the effect temporary.

Exercise: Exercise in the open air is one of the greatest aids in the preservation of health. As much time as possible should be spent in the open. Of the different forms of exercise walking is the best. Calisthenics follows with the advantage of its performance being adaptable to the open air or within doors; tennis, croquet, fencing, riding and handball are admirable forms of exercise for girls. Gymnastics by the use of the bars, and trapeze and jumping which produce too great a bodily impact should be replaced, in my opinion, by less strenuous exercises. Basketball when played with moderation is not injurious, but in contests it is altogether too violent. The high reaching and throwing of the balls when in a strained position is apt to cause displacement of internal feminine organs. Facilities for bathing and changing the clothing after strenuous games are not always present. With the cessation of the games the retention of the sweat soaked clothing will chill the surface of the body and render the players liable to internal congestions. Swimming in still warm water is healthful. Surf bathing has its dangers and should be indulged in with extreme moderation and the sensation of the slightest chill ought to be a warning to seek the warm sand of the beach. There is no truth in the popular belief that one cannot catch cold in the salt water.

Vacation is the recuperative period for the studious scholar. Sailing, rowing, fishing, hunting with a camera, in fact, all outdoor sports develop mind and body. Sleep is the magical restorer of spent energy—from eight to ten hours is requisite for the young. The windows in the bedroom should be lowered at night four inches from the top.

Studies: Any prescribed course of studies beyond the mental capacity of the student is wrong in principle and detrimental to health. Graded courses are necessary but the standard of requirement should not be made too high. The mental endowment of the average intelligent girl should be taken as a standard for the character of the instruction to be imparted. There are mentally stupid and mentally clever girls; they are in classes by themselves. The mentality of the great majority alone should be considered. Do you believe that the high school graduates of to-day will make better wives, mothers, teachers, writers, artists, professional or business women than those of ten or fifteen years ago when the requirements were consistent with a healthful repose of mind and body? If the time devoted to the study of the non-essentials was given to English grammar, rhetoric, mathematics, geography and history, we would have happier and healthier students and young women better equipped with the qualifications which

stand for success. It does not seem fair to have a girl spend hours mastering the irregular French verbs and unable when visiting Paris after graduation to ask the modiste to show her the latest style of gown or bonnet in a manner to be understood; nor with her knowledge of physiology to tell the difference between a peptic and salivary gland. I do not know who is responsible for the present difficult course of study in our high schools, but I would say to such a person, board or commission that it would be educational for them to visit the office of a physician and see the number of anemic, neurasthenic, hysterical girls seeking relief from those conditions caused by overstudy in an attempt to keep up with their classes; modifications of the present exactions would follow. It is my opinion, and I am sure I would be sustained in it by members of the medical profession that eight hours devoted to study in the school room and two hours home work is the maximum amount of study consistent with the normal life of a girl.

It is the exceptionally gifted girl who can with this limitation master the tasks now imposed upon her by the present curriculum. The nonpractical subjects, among which I would include the languages, should be made voluntary. I hold that with a good knowledge of the essentials the girl can after leaving school follow a course of self instruction along lines for which she is temperamentally fitted. The girl strives for excellence, for its rewards—success and honor; she desires the approbation of her parents and teachers; her sense of pride and shame act as incentives to accomplishment. A frequent declaration to me as a physician is: "Doctor, my daughter is one of the most studious of girls. She eschews society and amusements to be with her books night and morning. I am very proud of her but sorry that physically she is not strong. I do wish you would give her a tonic to build her up." The fond mother fails to appreciate that the studious habits which she admires in her daughter is the silent heroism of a martyr and the cause of her daughter's impaired health. If you notice your girl losing her color, becoming irritable in disposition, complaining of headache, backache, lassitude and insomnia take her away at once from her studies, from the artificial, let her get close to nature. I know of no better tonic. Her health is of greater value than a degree which in itself neither takes from nor adds to her knowledge. A nervous or neurasthenic condition once established is difficult to overcome. Psychologically it is a misfortune for a girl to know that she has nerves. I do not know how to remedy this evil, it involves so many problems. The need of gaining a livelihood induces many to seek positions as teachers. Aspirations for a collegiate course demand requirements beyond the ordinary need of the girl in social or business spheres. Parents should have a voice regarding the extent of the educational tasks imposed upon their children. Adult life comes on all too quickly. The girl should be permitted to enjoy the springtime of her existence. Let her have her day dreams and build her airy castles before the realization of life's trials weighs heavily upon her.

One of the most dominant qualities of the American girl is independence. Whether this is a desirable trait or not is debatable. It detracts from that gentleness and loveableness of character which is one of the most charming attributes of

young womanhood. It is the independence of inexperience and the superficial life which surrounds her. There is a hygiene of the mind as well as of the body. The young mind is impressional and receptive and to combat the growing scepticism of the world the girl in her home life should be surrounded by a religious influence. The young cannot escape the contaminating influence of city life, chief among which is the daily sensational newspaper, where crime is featured and the immoralities of private life minutely detailed. You owe it to your children to admit to your home clean newspapers and not scandal mongers. Is not one's sense of decency shocked at the not only vulgar but indecent theatrical bill posters to be seen upon every thoroughfare? They cannot help but have a most demoralizing influence, appealing as they do to the sensual passions. Blasphemous and foul expressions used chiefly by young boys and youths assail her ear daily when on the street. To cuff one of these offenders for using such expressions in the hearing of a sister or daughter renders you liable to arrest. To controvert these and other evils, endeavor to keep the minds of the young pure by associations, by placing in their hands elevating literature. Keep from them the problem novels, whose themes as a rule treat of the marriage relation. Excitation of the sexual instinct at this period of adolescence is harmful beyond measure. Emotional literature produces mental and physical perversion to an extent unknown but to the medical profession. The young girl should only know the beautiful in life, but with her environments we are compelled to recognize its impossibility. To guard her from pitfalls, if you as her mother feel a delicacy in imparting to her the physiological laws pertaining to her sex let the family physician be her mentor. His knowledge and experience of the good and evil in children will equip him for a duty from which most mothers shrink.

In conclusion, until you feel assured of your daughter's stability of character strive to render her home surroundings as idealistic as possible, selecting with care her friends, particularly her amusements; sharing her joys and sorrows and in a manner be her guide, philosopher and friend; and by your own mode of life show her that purity of mind and body are inseparable.

407 Clinton St., Brooklyn.

CORRESPONDENCE.

SOME ECONOMIC QUESTIONS FOR AMERICAN MEDICINE READERS.

Lanark, Ontario, Can.

To the Editor American Medicine:

If you will be good enough to request that the following queries be answered by as many of your subscribers as have the leisure to do so, and also, that answers be sent to me, Box 16, Lanark, Ont., Canada (my address), I will take the pains to compile the answers systematically and to turn same in to you (typed) for publication. I am convinced that the results of such an investigation, being of a highly personal character, will not only be very interesting, but will also give us all a very fair idea of what is lacking towards the standard, the dignity, the remuneration, etc., of the profession, whether the individual members are city specialists or practice in town, city or country.

What each of us does in leisure hours—day or night will also be interesting; and I have endeavored to tabulate questions so that none but brief and concise answers will follow. It is not necessary

for those answering to sign their names as names will not figure in the compiling. Trusting that I am not asking too much of you, Mr. Editor, I beg to remain

Yours most truly,

J. E. KLOTZ, M. D.,
L. R. C. P.

P. S.—My list of questions is a formidable one, I admit, but should we get as many as 300 answers, we will be in a position to draw some very positive conclusions—such as would *deter* or *encourage* doctors regarding the education of their sons in the medical science.

J. E. K.

One important question I omitted is this:

17. What is your annual expenditure?

Following are the questions submitted by Dr. Klotz. AMERICAN MEDICINE readers are urged to answer them and forward replies to P. O. Box 16, Lanark, Ontario, Can.

The signature is not *necessary*.

1. *Your cash income from fees?*
2. *Percentage uncollectable annually?*
3. *Your mileage rates?* i. e. beyond town or city.
4. *Your charge for over time* or delays?
5. Do you *attend church* because you *accept the Bible, from habit,* to *please others* or for *business reasons?*
6. Are your personal leanings medical or surgical, or mixed (no matter whether specialist)?
7. *Size of family?* Your *age? How long practicing?* Number of servants? horses or "autos"?
8. *Post-graduate work* and where, how long and for or in what? Cost of this?
15. *What is the population* in proportion to each doctor in your town, city or district?
9. Do you dispense for your patients?
10. Do you look upon practice as a science or a business (i. e. have you "commercialized")?
11. Do you do your own (a) urinanalysis, (b) bacteriology, (c) pathology (cutting, staining and examining)?
12. Do you (or do you hope to) earn cash in other ways than by practicing medicine? Please state what? Stocks, bonds, mortgages, real estate (buying and selling), drug store, other business (wholesale or retail), in the directorate of some bank, mine, etc., etc.
13. Do you own your own house and lot? Or is it mortgaged or do you rent?
14. What are your hobbies in leisure hours (in summer and in winter)?
    a. Hunting or fishing or both?
    b. Snowshoeing, tobogganing, skating?
    c. Tennis, baseball, golf, quoits.
    d. Rowing, canoeing, swimming and *can you swim*— not 6 or 7 strokes but 200 yards?
    e. Botany, zoology, geology?
    f. Walking, riding horseback, cycling, driving or autoing?
    g. Has the acquisition of an auto improved your "business" noticeably?
    h. Omnivorous reader? Painting as an Art. Music and what instrument do you play?
    i. Do you write for journals, the press —prose or poetry?
    j. Do you smoke? Do you chew? Do you drink?
    k. Your diet: Meats, vegetables, cereals, pastry, starchy foods, fruits?
    l. Have you a garden to look after yourself?
    m. Do you collect anythings, as stamps, china, coins, birds' eggs, botanical specimens, archaeological specimens, photos (self taken), old books, etc.?
16. Were you athletic? Are you that now or in a lesser degree?

A TRIBUTE TO DR. DOTY.

Loyal, Wis.

To the Editor American Medicine:

I am glad to note that Doty is demonstrating the truth of his statements made some months ago in the *American Journal of Medical Sciences.* I sincerely hope he, and those working under him, will not have their work discredited by a slight oversight. Compared to the work of the surgeon, and the general practitioner, how easy such oversight is. In his practical work, Doty is, I believe, the first health officer in the United States who has courageously taken the advanced standpoint, and brushed the outworn, per-

nicious and farcical methods of the Dark Ages aside. The fomite theory in the form of bacteriophobia, seems to have taken possession of American physicians; they—I mean the greater, far greater part—stand to-day where they did 30 years ago. Millions are thrown away yearly chasing and destroying [sic] the *ignis fatuus*, fomite, a delusion fastened upon the healing art by the horde that practiced from the 4th to 9th century, and still with us, "Like an eternal sickness of the race."

By the time you get this, your cholera scare will no doubt have come to a close. Men of the stamp of Doty are all too few in the medical profession; rarer still among the class of medical politicians called health officers and who fill positions in our larger cities, and are at the heads of state health boards. Dotys, Woodrow Wilsons, Tom Johnsons and Warings are needed by the hundred thousands in this country. They are born and bred; not ground out by medical schools, or any research laboratory or institute. I think it a duty to spread widely the essence of Doty's work.

Very truly,

A. F. FUCHS.

THE THREE GLASS CATHETER TEST: A CORRECTION.

New York City.

To the Editor American Medicine:

In the current (July) issue of AMERICAN MEDICINE, you have abstracted a portion of the article by Dr. D. J. Hayes, which appeared in the *American Journal of Dermatology*, of June, 1911. The abstract is entitled "Differential Diagnosis Between Acute Anterior or Acute Posterior Urethritis," and you select that portion of the article which describes the "four glass test," as the author calls it. Will you permit me the courtesy of making a slight correction?

The test described by Dr. Hayes is identical with the "Three Glass Catheter Test," which I described (for the first time, I believe), in the *Medical Record*, Aug. 21, 1909. When Dr. Hayes' article appeared in the *Journal of Dermatology*, I wrote him asking where he had seen the test described, and he replied (June 22, 1911) as follows: "Your letter received. In reply to same, will say that it was your test that I described in my article. I regret not mentioning it as such, but it was certainly an oversight."

This test should therefore be designated the "Three Glass Catheter Test," which it really is, and not the "Four Glass Test." Will you kindly give space to this correction, and oblige.

Very truly yours,

ABR. L. WOLBARST.

THE MENACE OF CHOLERA.

New York City.

Aug. 3rd, 1911.

To the Editor American Medicine:

In the press comments July 19th on the cholera situation existing here, the following statement is attributed to Dr. Alva H. Doty, Health Officer of the Port of New York:

"Dr. Doty speaks of the newly discovered frequency of 'cholera carriers,' persons 'who carry the organism of the disease in the intestinal tract and may develop it at any time or may transmit the disease to others without ever presenting symptoms of cholera themselves.'"

This cholera exists almost wholly among emigrants, who no sooner reach New York than they are shipped to the far West or South, and should they escape detention, the existence of cholera germs in their systems, which they may transmit to others "without ever presenting symptoms of cholera themselves," suggests what a grave menace to the entire country their pollution of the railroad rights-of-way and roadbeds (carrying, as they do, these germs in their intestinal canal) will amount to.

I speak of this in connection with the pamphlet recently mailed you, "A New Idea in Sanitation," and as emphasizing the importance of the danger therein pointed out for which there is but one remedy as indicated by me. Dr. Doty is further quoted as saying:

"'The quarantine departments of every port in this country are facing a very seri-

ous and onerous task during the coming summer. It is not improbable that many vessels arriving from the cholera-infected districts of Italy within the next few weeks will bring one or more cases of this disease.'"

July 26th the evening papers state as follows:

"Three stowaways, who were suspected of being cholera carriers and who were held as prisoners under orders of Health Officer Doty in the brig of the Anchor Liner 'Perugia,' escaped from their prison in the hold of the steamship as it lay at its dock at the foot of Harrison street, Brooklyn, some time last night and are at large."

Very truly yours,
H. Taylor Cronk, M. D.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Brain Tumors.—Burns says that symptoms are either general, caused by increased intracranial tension, or special, caused by the tumor itself. Of the general symptoms of brain tumor, the far most important are headache, vomiting, and "choked disc." Others, such as rise of blood pressure, slowing of pulse, and Cheyne-Stokes respiration, so often met with in acute intracranial lesions, are often either absent or occur as terminal events. Of the all important triad, "choked disc" is the most certain. This may occur of equal degree of intensity on both sides or be more pronounced on one side, this latter finding not always being of localizing importance. The swelling of the disc may reach 7°, with accompanying swelling and tortuosity of the retinal veins and hemorrhages. This condition is most often confused with albuminuric retinitis, a condition which, according to Cushing, is absolutely indistinguishable from it. The preoperative examination of the urine is in this as in all other surgical procedures of paramount importance. It is true that the two conditions might coexist, thus giving rise to much confusion unless other symptoms are present, which is usually the case.

Nausea and vomiting may or may not be present. Vomiting is often not preceded by nausea, and bears as a rule, no relation whatever to the taking of food. It may be projectile in character, and a slight change in the position of the head will bring on an uncontrollable paroxysm. Other gastrointestinal symptoms are usually absent.

Headache is the most constant symptom, for it is either present all the time, with paroxysmal intensification, or occurs at times throughout the attack. It may be general or localized, this latter feature not having much diagnostic significance. Headache seems to be due to the stretching of the dura from pressure, but this is the only thing to which the latter seems to be sensitive. Pressure upon a certain region of the skull may intensify it. Chronic nephritis, severe anemia, thrombosis, or embolism, and lead poisoning are characterized mainly by these three symptoms, but a careful history and physical examination should prevent a mistake in diagnosis.

Other general symptoms, which are rather inconsistent, are progressive mental dulness, convulsions (generalized), and dizziness. Localizing symptoms are very important and the occurrence a most helpful aid in diagnosticating the position of the tumor. Jacksonian fits, involving a group of muscles, or successive groups in a regular march, and preceded by sensory auræ, would, of course, suggest a cerebral involvement of the contralateral side in a region embracing both precentral and postcentral gyri; and, according to the muscles involved in the fits, would tell us what part of the precentral gyrus was affected. Tonic spasm, followed by clonic jerks without loss of consciousness, characterize these fits. A left sided hemiplegia, with headache, choked disc, and vomiting, would suggest a tumor involving the whole motor tract of the right side. In this latter case there may be a homolateral third or sixth nerve involvement due to pressure. Tumors of the parietal lobe may cause word blindness. Tumors of the frontal lobe are hardest to localize and often attain a large size only to be found at autopsy. Mental deterioration and aphasia, due to involvement of Broca's convolution, are sometimes present, particularly if the tumor is situated in the left frontal lobe. Tumors of the temporal lobe may give rise to word deafness, and if extensive enough cause symptoms from lower motor area. In the occipital lobe some visual disturbance is usually evinced, generally hemianopsia, although these symptoms may be produced by involvement lower down in the paths of the tracts. Basilar tumors are hardest to localize, and are for the most part inoperable. There is generally some cranial nerve involvement. The motor tract as a whole may be destroyed at the internal capsule or in part lower down, the same being true of the sensory paths. These tumors, by causing an internal hydrocephalus, may give rise to all sorts of symptoms. Deep reflexes are usually increased and the superficial may be absent. Plantar stimulation gives dorsal flexion of the great toes, and astereognosis and incoordination are usually present.

Cerebellar tumors usually cause an early choked disc by causing internal hydrocephalus. A staggering gait, ataxia, nystagmus, and flaccidity of muscles are also focal symptoms. Staggering is usually toward the side of lesion.

Conditions most frequently confounded with brain tumors are chronic nephritis; abscess, characterized by fever, leucocytosis, and secondary to an otitis media or a mastoiditis; ependymitis leading to early bilateral, or monolateral internal hydrocephalus with early spastic

paralysis; and gummatous meningitis, which usually yields to stringent antiluetic treatment, although this is not always the case. Sir Victor Horsley says six weeks is the limit for this treatment. Gliomata sometimes clear up under iodides and mercury, so this test is not absolutely trustworthy. Lumbar puncture is to be used very cautiously as a diagnostic measure if there is greatly increased intracranial tension, for by relieving the pressure in the spinal canal the pressure above may jam the medulla down into the foramen magnum and shut off the respiratory centre, thus killing the patient.

The Differential Diagnosis of Infantile Paralysis.[1]—Sill says that cerebrospinal meningitis and the cerebral type of infantile paralysis may be difficult to differentiate during the first few days, since they both usually have an acute and stormy onset, characterized by headache, backache, delirium, convulsions, projectile vomiting, spasticity, opisthotonos and constipation. In meningitis, we find the Kernig's sign equally apparent in the two legs, while in poliomyelitis it is unequal, one leg being more painful and spastic than the other. The temperature in meningitis runs an irregular course and lasts a long time, while in poliomyelitis the temperature is regular, lasting only from 1 to 4 or 5 days at the most, and is followed by paralysis, or the patient may recover though with spastic spine or extremity, or the two combined. The infantile paralysis patient may be kept in bed for several weeks on account of the pain along the course of certain nerves, but with no fever, good appetite, and perfect consciousness, while in meningitis we have the reverse. Lumbar puncture will at once clear up the diagnosis. Cases simulating measles, or scarlet fever, will be recognized by the occurrence of paralysis. Autointoxication may be mistaken for poliomyelitis, where there is atony of the bowel. Clearing and disinfecting the gastrointestinal tract will give relief to cases of autointoxication; these procedures remain without influence in poliomyelitis.

Rheumatism may be distinguished by the presence of swelling or tenderness about the joints. In poliomyelitis the pain is felt along the course of the nerves, and is present to a greater degree after the fever stage. Antirheumatic treatment has no effect in relieving the pain.

Poliomyelitis should not be confounded with influenza, although the symptoms during the first two days may be quite similar. The modified Kernig's sign, spastic spine, spasmodic movements and tremors, exaggerated or absent reflexes, absence of catarrh of the respiratory tract, and later on paralysis, will prevent such an error.

In typhoid fever we have a wholly different picture. There is a gradual onset with long-continued fever, poor appetite, positive Widal test, no paralysis, spastic spine, or Kernig's sign.

Infantile scurvy has been mistaken for infantile paralysis, when seen late in the disease.

[1] E. M. Sill, M. D., *Archives of Diagnosis*, July, 1911.

TREATMENT.

Treatment of Measles.[1]—In the treatment of both measles and scarlet fever, Robert Milne claims to have carried out the following treatment with surprising results in the cure and in the prevention of the spread of these infections, even in institutions, without adopting methods of isolation or disinfection. He first used phenol in oil in the proportion of 1 to 10. For twenty-seven years, however, he claims to have used pure eucalyptus oil. During the first four days, commencing at the earliest possible moment, this oil is gently rubbed in, morning and evening, all over the body. The treatment is kept up until the tenth day of the disease. The tonsils and pharynx are swabbed with 1 to 10 phenol in oil every two hours for the first twenty-four hours, rarely longer. He claims for this treatment that when it is begun early, secondary infections never occur and complications are unknown. With the treatment carefully carried out, children may occupy the same room and even the same bed without risk of infection. No quarantine is necessary and other children in the family may be allowed to attend school. No after disinfection is necessary.

The Treatment of Colitis.[2]— Hutchison says that one of the chief objects of treatment in colitis is to keep the bowel empty, and this will often necessitate the use of aperient drugs. It is chiefly, of course, in cases of colitis associated with constipation that such drugs are indicated, but even in the diarrheal types they are often of service. Thus at the outset of a case of acute colitis an initial dose of castor oil may be required to empty the colon, and in the more chronic catarrhal case where irritation is being set up by scybalæ the same agent is of value. Even in chronic ulcerative cases aperients may be useful, as, for instance, the sulphates in cases of asylum dysentery. In the mucomembranous type aperients are almost a necessity, and it is important to select the least irritating kinds. Of these the writer agrees with Dr. Hale White that none is better than castor oil if the patient can take it, and next to it he would place an infusion of senna pods. Aloetic aperients are too irritating and the salines too depressing. Liquid cascara is often useful, but has to be used with caution. That the diet in this type of the disease should be rich in fat is sound enough in theory, but in

[1] Robert Milne, M. D., *Proceedings Roy. Med. Soc.*, April, 1911.

[2] J. D. Hutchison, M. R. C. S., *Clinical Journal*, May 3, 1911.

practice it is often difficult to make it so owing to enfeebled digestive power, whilst the lubricating effect of the fats is better achieved by the administration of petroleum. Petroleum acts both as a protective lubricant and as a laxative.

The routine use of astringents in cases of colitis associated with diarrhea is strongly to be deprecated. It is easy enough by their means to suppress the diarrhea, but by so doing one offends against the cardinal principle of keeping the colon empty and toxemic symptoms are often increased. In the chronic catarrhal type, however, astringents are sometimes helpful, and may be given in the form of sulphocarbolate of zinc or large doses of bismuth.

Sedatives, like astringents, are of limited value. Small doses of opium, however, may be necessary for the relief of tenesmus in acute cases, or when there is a tendency for the bowels to act so soon as food enters the stomach, as sometimes happens in the more chronic cases. In combination with castor oil it is often very useful in the acute catarrhal form. For the griping pain which is so often met with in mucomembranous colitis, and which is probably due to enterospasm, the author has found belladonna the best sedative; it may be used in the form of the extract administered in a pill.

Of antiseptics the author states he has a poor opinion, and doubts very much whether it is possible to produce real antiseptic effect in the colon by any of the drugs commonly used with that object (salol, beta-naphthol, cyllin, etc.), and equally doubts whether any great benefit would accrue if one could. An exception must be made, however, in favor of calomel, which is sometimes classed as an "intestinal antiseptic," and which is of the greatest value in minimal doses (1-20 to 1-6 grain) frequently repeated. It should not be used as an aperient.

Ipecacuanha is the only specific remedy which is of use in colitis. In the ulcerative type, due to chronic or relapsing dysentery, the writer asserts he has sometimes found it, when given in massive doses, to exercise a specific curative effect, and would suggest that it deserves a wider trial in cases of the sort met with in this country than it has yet received.

Intestinal injections play a large part in the treatment of all forms of colitis, and for convenience they may be divided into three classes:

Sedative. Starch and opium injections are of use in the relief of pain and tenesmus in the same type of case as opium given by the mouth. In the mucomembranous form injections of warm oil have a valuable sedative effect in the relief of griping pain in the sigmoid region which is often so troublesome.

Cleansing. Large injections are of use for cleansing purposes in all chronic forms of colitis. Normal salt solution is, in the opinion of the author, the best for the purpose. Antiseptic injections are of doubtful advantage, and may even be dangerous. In the mucomembranous form the high injections administered at Plombières, Châtel Guyon, Harrogate, and elsewhere are of undoubted utility, but the writer has nothing to add in this respect to what has already been said by Dr. Hale White.

Astringent. In chronic ulcerative and catarrhal colitis astringent injections are often of value on account of their local action on the mucous membrane of the bowel. Weak nitrate of silver, argyrol, or protargol solution is the best for the purpose.

In regard to all forms of injection in the treatment of colitis, however, certain limitations must be borne in mind. They are chiefly of use when the lower part of the colon is alone or principally affected by disease, for one can never be sure of their reaching high up. It is easily possible, also, to abuse the cleansing injections and induce overdistention of the bowel, and in the ulcerative cases there is a distinct danger of producing perforation unless great care be exercised in their administration.

HYGIENE AND DIETETICS.

The Use and Abuse of Coffee.[1]—Coughlin concludes his interesting paper as follows:

Coffee may be used by a moderate consumer to his advantage as a beverage when it produces none of the symptoms indicating a poisoning of the system.

It should not be allowed to patients who are known to be nervous, especially women.

Under no circumstances should it be allowed to children, on account of their susceptible nervous systems. One often hears unthinking mothers call their children off the street for afternoon coffee. A glass of good milk would be far better.

It is to be noticed that nearly all the sufferers from coffee drinking were women of either Scandinavian or German descent. Rheumatics, as a rule, like their coffee as well as those of the uric acid diathesis, and in these individuals, as in Case XIV, there are apt to occur explosions after exercise showing that the coffee acts to store up uric acid in the system.

The therapeutical action of coffee must not be lost sight of and when the proper indications arise its judicious use may be of great benefit. Personally, the writer can testify to its efficacy in cases of shock and vomiting after operations, or hemorrhage, in drachm doses without milk or sugar, every fifteen minutes. In this way it acts as a valuable heart stimulant, and the stomach will retain it when everything else may be rejected.

Probably, in certain individuals even when taken in large amounts, coffee does no harm; at least this seems to be the experience of not a few observers.

In all functional heart cases as well as functional nervous cases we should look into our patients's coffee history.

In impotence and sexual decline we should question our patients in regard to their use of coffee, for an intemperate consumer may, in order to perform prodigious feats of strength

[1] R. E. Coughlin, M. D., *N. Y. Med. Jour.*, Aug. 5, 1911.

and endurance, cause a corresponding tissue destruction. This may explain why coffee is said to be an anaphrodisiac.

In patients with arterial changes we should prohibit the use of coffee, because experiments show that its use raises the blood pressure.

In conclusion we might say that coffee drinking is sometimes harmless, often harmful, and, generally speaking, a habit that is not to be encouraged.

Something About Oranges. — The name "orange" is from the Latin *aurum*, says the *National Druggist*, meaning gold or of a golden color. The fruit was originally a small, bitter berry, about the size of a common early Richmond cherry, and very seedy. It has been cultivated in Hindostan from a very remote period, and was taken from that country to Arabia and Persia in the eighth or ninth century. It is said to have received little or no attention from cultivators of fruits in either of the last-mentioned countries prior to the beginning of the tenth century, there being a tradition that it was a "cursed" fruit sent by Mohammed to destroy the unfaithful. This reminds us that our common tomato was formerly supposed to be poisonous, it being now less than seventy years since it was only grown as a garden curiosity. But to the orange. In the tenth and eleventh centuries the horticulturists of Oman and Syria began the cultivation of the tree in earnest, the fruit going under the name of "bigarade." By the end of the twelfth century it had reached the Levant, the soldiers of the cross (Crusaders) bringing it with them on their return from Jerusalem. It was well known, but not extensively cultivated in either Italy, Spain or France, before the middle of the sixteenth century, four hundred years after its introduction into the first-named country, the hindrance being a survival and addition to the old anti-Mohammedan tradition, viz., that the use of the fruit would cause the partaker to enroll himself with the legions of Islam whether he desired to or not.

The Spaniards finally attempted and succeeded in cultivating it in their West Indian colonies, and from there it found its way into Florida, Central America, Mexico, and California, always improving in size and flavor until it became what it is today, one of the most perfect of fruits.

GENERAL TOPICS.

Masturbation[1] in little children is exceedingly difficult of treatment; females contract the habit in infancy, boys as they advance in years. Such children are sallow, hollow-eyed and nervous. They must be watched, and forcible prevention of self-abuse by the hands or by the thighs must be exercised; as children advance in years an unusual amount of firmness and supervision is essential. Bodily punishment avails little, so Jacobi finds; in any event this must not be inflicted upon the genitals, which process is like to be accompanied by pleasurable sensations. The causes of masturbation are local irritation of the genitals in the very youngest, excitation as the child grows older, feather beds, excess of animal food, stimulating beverages, rancid smegma, eruptions on the penis, vaginal and vesical catarrh, renal calculi, preputial adhesions, phimosis, oxyuris and constipation. In the treatment one must remedy such causes as these by cooling diet and coverings, attention to the kidneys, bladder and rectum, relief of external irritation by clothing, removal from the bed on awakening, cold bathing and sponging, mechanical prevention and timely punishment. Nurses should be watched, and discharged immediately upon evidence that they are handling the children. If the infant has acquired the habit, the hands must be tied while it sleeps and it must at all times be watched until it outgrows the habit. Sleeping bags are now to be had for children; a pair of such drawers impervious to the hands can be made.

[1] *Medical Times.*

THERAPEUTIC NOTES.

Quinine as Anesthetic.—In operations upon nose and throat in children or individuals who show an idiosyncrasy toward cocaine, Chavenne (*Klin. therap. Woch.*) employs the following formula:

Phenolis	
Mentholis aa	2.0 Gm.
Quininæ Hydrochlor.	1.5 Gm.
Adrenalin	0.005 Gm.

This will form a syrupy fluid, which when applied in small amounts upon mucous membranes will give rise to a satisfactory anesthesia. Cauterizations and small operations can be performed without any pain. The combination is not caustic since menthol is known to counteract the caustic properties of phenol. The presence of quinine considerably increases the anesthetic effect, though quinine alone was unsatisfactory.

Hexamethylenamine in Infections.—Experiments on animals have shown that hexamethylenamine is rapidly excreted with the bile, so that it can no longer be detected after 24 hours. Typhoid or colon bacilli are rapidly killed owing to the formaldehyde which is split off. A. Chauffard (*Semaine Med.*), therefore highly recommends the drug in acute cholecystitis and for sterilizing the infected gall-bladder before beginning liver abscess. In typhoid fever, doses of 2 Gm. daily will keep the bacilluria under control and later will prevent post-typhoid cholelithiasis. The author believes that hexamethylenamine is the most efficient internal antiseptic we possess.

The prognosis in tuberculous diseases of bones and joints in children has been improved more by the practical application of the fresh air treatment than by any other means. The next step in surgical enlightenment is to apply the same treatment to other surgical disease.

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Weak medical schools as nurseries of medical genius is the title of an article by Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching (*Jour. A. M. A.*, Feb. 25, 1911) in which he defends Abraham Flexner's report on medical education in the United States and Canada and takes exception to our remarks (Oct., 1910) as to Simon Flexner being a graduate of one of the most criticized of the schools. We doubt whether weak schools can be the nurseries of genius or any other character which is derived from one's ancestry. What the medical profession is beginning to realize is the fact so often commented upon by all pedagogs,—the graduates of the small college, which is more or less weak as a matter of course, are showing an extraordinary percentage of the world's workers. The explanation is generally to the effect that the student in the small college is taught to work out his own salvation, while in the big school with grand teaching facilities, he is stuffed full of facts like a fattened goose, and never learns to do real work. There is perceptible a growing tendency to advise young students to go to the small college for medicine after he leaves the small college of arts, since the glamor has already been rubbed off the diplomas of graduates of the big schools, both lay and medical, now that their graduates are not "making good" as predicted.

The necessity for special post graduate work is the real point at issue, and the matter is conceded by Mr. Pritchett in saying "Dr. Simon Flexner got his real training by ten years of work at the Johns Hopkins University,"—the old, old story of every successful investigator—years and years of patient preparation by work itself under the stimulus of a chief who himself was compelled to dig without teachers at first and who later profited by the stimulus of other great workers—not teachers. It is now said that when a great scientist dies, his equipment ought to be burned to prevent the stagnation of hero worship and this is another way also of emphasizing the importance of the personal influence of workers misnamed teachers. We are quite convinced that Mr. Carnegie would have done more good with all the money he has given to education if he had eliminated the words "advancement of teaching," and substituted a phrase such as "production of workers." From the smaller results of the big schools which are so well equipped for teaching that the students never experience the need of digging for themselves, we are quite sure we can answer Mr. Pritchett's query as to how much more effective the genius would have been "had he not been handicapped by defects of training;" the probability is we would not have heard of Simon's works nor Abraham's worries.

Students must be trained for practice not research according to Mr. Pritchett. As we agree with him, he is in error in stating that we wish to impose "on the public a body of ill-prepared practitioners." We do not even advocate imposing Simon Flexner on the public as a practitioner for we doubt whether he is in the slightest degree prepared to practice surgery, obstetrics, gynecology, general medicine or any of the numerous specialties taught by small colleges without much laboratory equipment. Indeed the ten years of work which Mr. Pritchett so praises was a training in research pathology and really unfits one for practice. A practitioner in any line should not and cannot be burdened with the details of another. There is a growing opposition in the colleges themselves to the great waste of time in compelling students to see and do things in the many laboratories which will never have any practical value and which can usually be learned in a few minutes if it is necessary to know them at all. There is a growing feeling among practitioners that the great equipment so lauded as necessary by the two laymen, Mr. Abraham Flexner and President Pritchett is distinctly harmful, and for that reason alone the graduates of such schools are not "making good," the Johns Hopkins halo notwithstanding. Indeed the longer the practicing medical profession studies the Flexner reports the more their amazement grows. It is high time that there be an investigation of the medical harm being done by Mr. Carnegie's money, and we must insist upon a shoemaker sticking to his last. Practical medical education must be improved on other lines than laymen suggest.

The obsessions of pedagogs have been numerous and dangerous and the reasons are well expressed by Prof. John M. Coulter in *Science* of June 10, 1910, These unfortunate men are isolated from the world of adult workers and come in contact only with immature minds and always as masters. They acquire "a feeling of superiority, unconscious in many cases, but often naïvely expressed." "To speak with authority in intellectual matters, to give the deciding word, to meet a constant succession of inferiors, is apt to affect any man's brain." There is much more of the same tenor and though we cannot agree with all said, there is no doubt of the resulting dogmatism on matters having no basis in fact. We were first assured that universal education would elevate our citizenship, but the vote sellers and buyers are more numerous than ever. Then they said it would lessen crime, but we have infinitely more than countries with fewer public schools. Then we heard that it would increase general intelligence, yet the advance work of the world comes from Europe with disconcerting regularity. Finally they said our skulls would balloon out to hold the bigger brains thus developed, but the hatters still sell the same sizes or less ones. Now we have this new heresy that if we can only pour facts into a skull, the owner thereof becomes a better investigator or practitioner instead of a stuffed goose. As a result of false methods based on obsessions, we are greeted with a veritable flood of articles and books attacking pedagogy in general and its practices in particular. We commend these works to Mr. Prichett for what they say about the "best" universities applies to the kind of medical schools he advocates.

Domestic Pets as Spreaders of Contagion.—Although attention has frequently been called in medical circles to the fact that cats and dogs and other domestic pets may easily be the unsuspected channels of the spread of infectious diseases, especially in crowded communities, the far-reaching importance of the matter is still insufficiently realized by the general public, and even by the medical profession. "What more natural," it is thought, "than that when little Mary is recovering from diphtheria or little Willie has 'turned the corner' in regard to scarlet fever, the cat and the dog—the children's 'natural playmates'—should be allowed to keep them company and amuse them?" And so, before the disinfected sheet is taken down from the doorway, while every feeding utensil and other household article is still regularly disinfected before being allowed to leave the sick room, while brothers and sisters are still kept out of the room—perhaps even sent altogether away from the house, and all visitors from outside are rigidly excluded, and while even those in attendance on the patient are condemned in the public interest to share his imprisonment, the cat and the dog are often allowed to wander in and out at will, to lie on the bed and be played with and caressed. There can be little doubt that this is one factor in the spread of certain infectious diseases, and any measure which will call public attention to it is a step in the right direction. We note with approval, therefore, that in the regulations in regard to infectious diseases recently promulgated by the board of health of Salem, Mass.,[1] Regulation 6, which governs the admission to the sick room of persons other than those ministering to the patient, adds, "nor shall any dog or cat, or other animal be allowed to enter any apartment or other place set apart for the treatment of smallpox, scarlet fever, diphtheria, or membranous croup, until the board of health shall certify in writing that such apartment or place has been satisfactorily disinfected." Even from an educational point of view this regulation is not to be despised.

[1] Public Health Reports, Aug. 11, 1911, Washington: Government Printing Office.

The advantages of half-time in schools, when the other half-day is spent in work, were discovered by mere accident in Europe, and though frequent mention has been made of the fact that such scholars progress faster than the well-to-do full-timers and are also healthier, happier and more vigorous, it is something short of amazing we have made so little use of the system in America. A beginning has been made in the University of Cincinnati, though for another purpose. Employers have long complained that the educated men they wanted were devoid of all practical knowledge and often too old to learn, while teachers have found insuperable difficulties in obeying the well-nigh universal demand for practical industrial training in the schools. The two classes are now cooperating in a system which is so simple that one marvels it was never thought of before. The students are in pairs and one is in school while the other is at work and they alternate every week. The employer who wants but one apprentice and has bench room for but one, is really training two, and apparently training them quicker, as the intermissions prevent staleness. The schools are educating twice the number without increasing the equipment, and the students make marvellous

progress for the same reasons of intermission. It is now proposed to extend the system to all grades.

The benefit of intermittent work has been known and explained so long, that the public school system deserves severe censure for failing to use the system. No child can be kept steadily at work, for its powers of concentration are too feeble. A month old baby can keep attention fixed only a few seconds and though this period rapidly lengthens it is still very short until well along towards puberty. Tired little students merely sleep with their eyes open, and much of the time in school is worse than wasted, for they are unduly exhausted by the effort to keep at attention and they should then be at some active employment, preferably out doors. When they are compelled to work half time they are mentally rested. The bigger ones really think of their lessons in the week at the bench. Experience shows that they are keener to know and are constantly asking questions which not infrequently puzzle their teachers. Why cannot New York City's merchants, manufacturers and teachers get together the same way, and nearly double the school capacity? Of course the lower grades where most of the overcrowding occurs are really nurseries, for the little tots are too young to learn or work, but the upper grades would be relieved, the pupils get better mental training while learning to earn a living or actually earning apprentice wages, and we would keep them at school longer. It surely is worth trying, and we would even suggest trying it in domestic service. Many a housekeeper would take such a pupil for half work, or even two at whole work alternate weeks. The whole system is based on such solid scientific foundations, that it has come to stay. Why delay in adopting what is so simple and effective? The Carnegie Foundation would do more good in finding jobs for these half-timers, than dabbling in medical affairs it doesn't understand. Why not have half-timers in medical colleges, who could spend half the day or alternate weeks as apprentices to busy practitioners? The latter would get many a new idea from the laboratories. It does seem then that the constant efforts to end the number of half-timers are in the wrong direction. Get jobs for them.

Pernicious medical advice from physical culturists is becoming so common that it is time their activities were regulated by university trustees. The last one to air his opinions is an instructor in gymnastics—a system which is itself under fire and trying to show cause for its existence. We are told by this layman that the way to keep cool in summer is to cut down the meats which we need and increase the cereals which furnish more heat. He also advocates sun baths because the rays have a "beneficial effect on the skin," though he has no evidence to present and the most recent investigators are utterly condemning such exposures. He claims it is a nature-cure, though nature protects all living things from sun baths. His advice to the army to wear heavy clothing in summer would be amusing were it not so harmful. It is quite evident that a little learning is a dangerous thing, but when the ignoramus occupies the position of a quasi-hygienist the damage he may do is multiplied, for the unthinking accept him as an expert. In the interest of the health of college boys, it might be well for the trustees to look into the matter, with a

view of preventing ignorant and improper medical advice. Pennsylvania papers will please copy, and Philadelphians take notice.

Tincture of iodine as an antiseptic and germicide in surgical technique, is apparently becoming a permanent fixture if we are to judge by the increasing number of articles on the subject both here and abroad. Major Frank T. Woodbury of the Army Medical Corps has been a pioneer in this field, publishing several articles in the *N. Y. Med. Journal* in 1910, and now in the issue of Feb. 11, 1911, he gives information of quite a number of other investigators and surgeons who have used it a long time. In some respects it seems to be ideal and if the surplus is wiped or flushed off so that the surface is a dry brown, there are no symptoms of poisoning. It can be used even on the peritoneum providing no excess drips down to collect in pockets. On account of the ease of use and the extreme simplicity, it is quite evident that this new method must be taken up, to simplify our technique which ever since Lister's first suggestions, has been inordinately complicated and cumbersome. For the country practitioner nothing could be more desirable, and it may not be so very long when it will be safe to operate in farm houses on cases now invariably sent to hospitals or allowed to go without relief. Indeed the whole tendency of recent years has been to simplify methods which have really restricted surgical relief to a chosen few, and rendered operations unconscionably expensive. We are great imitators and many an operator who bundles himself up like a submarine diver, may not be having any better results that he whose methods now look to be criminally simple because unorthodox.

The strike fever so alarmingly prevalent in Great Britain, where it recently assumed more widespread proportions than ever before, once more calls the attention of the profession forcibly to the subject of crowd suggestion. This subject has long been a matter of empirical observation, and many writers have made mention of its phenomena at different times. Of late years Kipling has commented on the unrest tending towards mutiny in India, and occasioned by a combination of demoralizing heat and enforced inactivity. In one of his stories he compares such outbreaks among soldiers with an epidemic of hysteria in a girls' school. Boris Sidis and others have contributed to an investigation of this condition, with which we in this country are painfully familiar in the constantly recurring outbursts of lynching. There must of necessity exist a predisposing cause, a condition of mental inflammability, so to speak, comparable to the dried up condition of vegetation that causes whole districts to take fire on the application of such trivial excitants as the sparks from a locomotive, a lighted match, or a cigarette stump, thrown carelessly down, which in ordinary circumstances would die out without occasioning any harm.

There can be no doubt that certain mental attitudes are "in the air" at certain times and places. We see this in the gradual assimilation of the view points of aliens to those of their new environment, often so diametrically opposite to that in which they have been brought up; in the unquestioned and unquestioning domin-

ance of certain religious, political, or ethical conceptions in certain communities; in the enthusiasm of all kinds of faddists; in the sudden incidence of the war fever in a whole nation; in the power of the dictates of that mysterious influence, "fashion." It is not to be supposed that all, or any, of these influences operating upon masses of people are with the vast majority, the result of reasoned processes of thought. A few individuals, perhaps, of these various classes could give a reason for the faith that is in them. To the great majority it is merely an influence that dominates them. It is not necessary that there should be a mob in a state of excitement to rouse such individuals to fever point, though when that is the case, a conflagration is pretty sure to follow. The enormous developments of the past sixty or seventy years in regard to the rapid exchange of thought keep even the most stolid constantly receiving, unconsciously, mental and emotional impressions originated by others, transmitted as it were in waves, and storing them up below the level of consciousness, where they nevertheless exercise a powerful influence upon the subject's mentality. It may truthfully be said, therefore, that, in these days, "crowd suggestion" may be operative in the absence of a crowd; whole communities of people, or classes of individuals having some common bond, being thus stirred up as separate individuals by a common idea, until, collecting accidentally or purposely together, the influence is intensified a thousandfold by contiguity and the sensible communication of impressions.

Such appears to have been the case in the strike fever permeating Great Britain throughout the length and breadth of the land. No sooner did the dock strike begin, than other bodies of all kinds began to strike. The *reductio ad absurdum* would appear to be the reported strike of anglers' worm catchers! The dangerous significance of the present strike campaign, however, is to be found in the diabolical conception of a general strike of the public utilities, with the avowed intention of paralyzing all the industries of the country, and especially the transportation facilities, and thus, by depriving the country of its food supplies, placing it at the mercy of the belligerents; for such the labor party proclaimed themselves—the combatants in a labor war. But with whom did they consider themselves at war? With the capitalists alone? Or with the government? Or with the entire community? If with either of the latter two, they have no right to complain when force is met with force. If with the former only, then a deliberate attempt to inflict misery, destitution, and death upon the community at large demonstrates them public enemies who should be treated as such, instead of receiving public sympathy in any degree at all.

At Liverpool, owing to the dislocation of all public traffic, an accumulation of insanitary foulness was brought about that even yet may result in a pestilence. In holiday resorts tens of thousands of visitors, mostly of the lower middle class, who had spent all their money on their vacations, and only to find that their return tickets were useless from the locking up of the railways, were from their penniless condition subjected to exposure and famine. The interference with the food and milk supply in London was signalized by a rise in the weekly mortality of infants

under two years, from 157 to 318, 548 and 629, in three successive weeks! Riot and pillage were rife in South Wales, sick women being driven out of their beds into the street. Attempts, fortunately unsuccessful, were several times made to wreck trains by tampering with the signals, placing obstructions on the line, or displacing the rails. This is not war; it is homicidal mania. In modern warfare, at any rate, the combatants confine their offensive operations to their opponents; they do not attack and endeavor to lay waste the territories of adjacent countries. If two countries such as France and Germany, for instance, were today at war, an invasion by either of them of, say, Holland or Switzerland, would rouse universal condemnation. Yet that is precisely what these labor warriors have attempted to do. In their struggle with the capitalists who control the railways, they have adopted the method of trying to interrupt the modes of communication on which the very existence of the entire community in these days depends. It is as though a man to avenge his real or fancied wrongs against a shipowner should endeavor to sink all his ships at sea, regardless of the hundreds of innocent and harmless lives that he would thereby sacrifice.

In the last few decades, side by side with the increasing realization on the part of the community of its responsibility for the life and well being of the individual, as evidenced by universal legislation for the improvement of working conditions, care for infant life, the crippled, and the degenerate, the crusade against consumption, and in many other ways, there has developed a spirit of lawlessness and callous indifference on the part of organizations and groups of individuals as to whom they injure in their madness. If a single individual, were, in a frenzy, to strike out wildly, wounding indifferently anyone with whom he might come into contact, he would properly be either punished by law or confined as a dangerous lunatic, according to the presumed extent of his responsibility. The fact that A had grievously injured him would afford him no immunity for deliberately injuring B, either by way of retaliation or with a view of thus forcing A to do him justice. It is a question whether these demagogs who deliberately incite to such action and arouse the blind passions of the throng should not, for the public good, be put under restraint as lunatics.

Dr. Wiley's vindication at the hands of President Taft was full and complete. All fair-minded men were pleased at the outcome of the case, for any other result would have been a sad reflection on justice. But with his clear insight and fine judicial mind, the President saw that the charges against Dr. Wiley were practically groundless, and that his relations with Dr. Rusby were free from the interpretation placed upon them by the Personnel Board. It was evident from the investigation, however, that the Bureau of Chemistry was anything but a happy family, and that for a long time Dr. Wiley and several of his associates and assistants had been at cross purposes. Instead of harmonizing differences of opinion, the work in the Bureau had resolved itself down to a game of wits in which each one was striving to accomplish as much as he could by machination, intrigue and politics. Cooperation was conspicuous by its absence and as the discord and ill feeling that ex-

isted in the Department was brought to light by the investigation, the wonder grew that the Bureau had been able to accomplish the good it had in the face of such untoward conditions. If any work ever required shoulder to shoulder efforts and hearty, sympathetic cooperation, certainly the interpretation and execution of the Pure Food and Drug Law did. One of the best and most needed pieces of legislation ever enacted by Congress, this Pure Food Law nevertheless called for intelligence, discretion and a broad tolerance at the outset. Previous to its enactment, business had been carried on with such complete absence of inspection or regulation, that countless evils had crept in, but from long usage and custom these had lost much of their evil aspects and grown to be accepted as essential details. In all fairness, there can be no question but that up to the passage of the Pure Food Law, innumerable firms, made up of honest, high minded men, had been guilty of many practices that, while never looked upon as dishonest or dishonorable, were yet in their last analysis, reprehensible in the extreme. Naturally many of these firms resented criticism and condemnation of their methods, since they had not considered them wrong or dishonest. Consequently, it required infinite tact and discretion to pick out habits and customs—the growth of years—and show their incompatibility, not alone with the Pure Food Law but equally with correct ideas of business honesty and honor. The situation, account for it and regret it as we may, sadly needed a campaign of education. Harsh, intolerant methods were bound to work needless injury without accomplishing any greater results than kindlier measures. This, of course, refers to the honorable firms of the country, those whose violations of the law were common to their particular industry, rather than those whose misdeeds were individual and designed solely to enable them to profit illicitly.

There was still another group that demanded early attention, those whose methods while in no sense dishonest, were yet open to the suspicion of being harmful and injurious. Their problems called for careful and painstaking investigations, pending which each and every firm was entitled to the doubt. To this some demur and say that until investigation proves a firm's methods harmless they should be condemned and restrained. It hardly seems right, however, to destroy solely on suspicion a business that may have taken years of hard earnest effort to build up, and on the successful continuation of which the livelihood of many hundred people may depend. Everybody knows how much easier it is to destroy than to build up. A word of suspicion or condemnation may wipe out a reputation that is a firm's greatest asset and that has been achieved at great cost and by years of hard work. Once lost, or held up to suspicion, it is almost impossible for a reputation to be regained. How much better and fairer it is to refrain from robbing a firm of its principal asset until definite knowledge is obtained that its methods are actually injurious. Finally, if the harm and injury of any method are so slight that a careful, painstaking investigation is required to demonstrate them, its condemnation can be safely deferred until such investigation is completed. The evils of hasty, and possibly unwarranted con-

demnation are infinitely greater than those that can possibly result during the short period required to demonstrate any harm that may actually exist.

Dr. Wiley has been accused of extreme radicalism. It has been stated that he has been too ready to condemn without definite information, that he has been dictatorial and intolerant and that he was too arbitrary in his views and methods. Possibly some of this is true. We do not know the conditions that Dr. Wiley has met, nor the nasty, underhanded methods he has encountered in many of the firms he has been obliged to deal with. It is not nice to say, but there are not a few firms who will stoop to anything to get ahead. Thus the abuses that have been exposed in connection with the meat packing and the canning industries show to what lengths some business concerns will go to make a little extra profit. It is just such firms, that see in every public official, an individual they can buy—if they pay enough. Knowing how much of this Dr. Wiley must have met, we can hardly blame him if he has been pessimistic and intolerant. Then again, if he has been arbitrary in his views and methods, we do not doubt that his vast experience with firms who promised and promised, and never kept their word, has been responsible for this attitude. As a matter of fact since carefully following the evidence throughout Dr. Wiley's investigation our ideas have undergone considerable change. We must confess that we feel a great deal more in sympathy with Dr. Wiley than ever before. This does not mean that we think him perfect or that we are blind to the fact that he is human with all the tendencies to mistakes that other human beings have. But because we have a broader grasp of the difficulties he has had to meet we are less inclined to criticise him and far more ready to make allowances for any mistakes he has made. Nearly every one who knows, concedes that Dr. Wiley had more to do with the preparation and passage of the Pure Food Law than any other one man. Indeed if he had not pursued the course he did and agitated so strenuously for pure food, it is doubtful if we should have a pure food law even today. But it came to pass and the gain to the people has been enormous. To the credit of American industry, the majority of the country's decent firms recognized the desirability of pure food and drug legislation and lined themselves squarely in favor of the law. We have no doubt that Dr. Wiley and his associates would freely commend the attitude that has been taken by practically all of our large reliable concerns. Business acumen and common sense, if nothing else, have led these firms not only to conform to the Pure Food Law, but to support it and cooperate with it in every way. Contrary to the too frequently expressed opinion that business is necessarily dishonest, countless firms are proving that it can be as clean, above board and idealistic as any profession or vocation. But there are plenty that practice otherwise, and it is the machinations of these, that have doubtless led to any pessimism, intolerance or ultra-radical methods that can be laid at Dr. Wiley's door. No one can meet day in and day out the petty meannesses, the dirty tactics, and the endless subterfuges of crooked business and maintain his optimism, and unshaken faith in man-

kind. Then add to the depressing tendencies caused by daily combat with crooked business, the effects of the unfortunate quarrels, strifes and conflict with his associates, and it is apparent that Dr. Wiley has had anything but a bed of roses. In spite, however, of the effort to embarrass him, hamper his work and accomplish his downfall, he has gone on doing his best as he saw it. Therefore, although we freely admit that we are opposed to certain of Dr. Wiley's views and have deprecated certain of his acts, we are mighty glad that the investigation resulted as it did. It is good to see a man come through an ordeal of investigation with such a clean record, especially when so many are striving to encompass his confusion and destruction. At the most the charges against Dr. Wiley were technical in character, but he was shown to be free from even the slightest technical mistake. Not a single dishonest or culpable act was brought out in the whole investigation that could be attributed to Dr. Wiley, and although the malice and dislike of several co-workers and assistants in the Bureau were plainly evident, the Chief Chemist showed himself remarkably free from petty prejudices and resentment. Altogether it was a triumph for a man who had given his life to a work that he loved because of its importance to humanity. He proved himself a good deal bigger than his enemies and it is because of his evident sincerity of purpose and whole souled confidence in and respect for his work, that we were so gratified at his complete exoneration by President Taft. It is seldom given to a man to prove his work so clean and free from reproach, but it always creates new confidence in mankind when it happens.

Dr. Wiley will go on with enlarged opportunities, and unquestionably with increased power. The showing he made, and the acknowledged work he has done, make it almost obligatory that every person who sympathizes with the fight for pure food and drugs, give him all the aid and support that lies within his power. There is cause for no little satisfaction in this day of graft and purchase of officials, that the head of the Bureau of Chemistry with its enormous influence and authority, is a man whose honesty and integrity have been so well proven. Mistakes he has made and more he will probably make in the future, but since his recent experience has shown him how easy it is to be misjudged, we believe Dr. Wiley will have increased tolerance for the suspected violator of the Pure Food Law, and be less inclined to condemn a process or a product, until he has in hand indisputable evidence of its harmfulness. We are glad that Dr. Wiley won out, not only because he deserved to win out, but because of the uplifting effect such a result has necessarily had on the whole situation. If Dr. Wiley had not withstood the fire and had been shown to be deserving of "condign" or any other punishment, the cause of pure food would have been set back at least a decade. As it is, it will receive an impetus that should carry it forward as never before. The Chief Chemist of the Bureau of Chemistry may have been intolerant at times and he may have made his mistakes like any other man who does things, but try as they might they could not point to a single dishonest or dishonorable act. His honor and honesty stood the test. That is the thing that counts in the present situation.

The investigation of Dr. Doty is concluded and it is earnestly hoped that it may result as happily as did that of Dr. Wiley. The political factor is so strong, however, in the local situation and it is so well known that Dr. Doty's position is sought by the politicians that there are grave fears that his case may not be decided entirely on its merits. On the other hand Governor Dix has shown on more than one occasion that he would not suffer political dictation to the point of wilfully injuring faithful officials. His Excellency has a keen sense of justice and fairness, and has done many things that prove him to be a man far more appreciative of honor and principle than many of those who have been most ready to traduce him and question his motives. It is this knowledge of the Governor's fundamental integrity that creates the hope that he may withstand the politicians and refuse to be a party to the scheme to remove Dr. Doty by hook or by crook.

The investigation of Dr. Doty was farcical in some respects, and most surprising in others. It early resolved itself down to a vicious attack on an earnest, hard working official. Accusation after accusation of the most ridiculous character were made and all the time Dr. Doty was on the firing line fighting an incipient epidemic of cholera. A few years ago, the appearance of cholera at New York's gateway was sufficient to throw the city into a panic. Business was depressed and there was a wholesale exodus of frightened people. But now how different! Although the papers gave full publicity to the situation, such was the confidence in Dr. Doty's ability to control the situation, that no one felt the slightest alarm. That this confidence was well placed was shown by the masterly way in which Dr. Doty handled conditions as they arose and fought back the invading forces of a frightful disease. His triumph was so pronounced and decisive that it was almost commonplace. The people took it as a matter of course, a result to be expected with Dr. Doty on guard. Too great praise cannot be given to this efficient physician, who could not attend the investigation that he well knew meant practically his official life or death, simply because he was too busy serving the people and protecting them from dangers that threatened!

A sorry recompense for years of faithful, untiring labor in behalf of the public, was this so-called investigation of Dr. Doty. As previously intimated it was a vicious, malicious attack rather than an honest investigation. Conducted by a commissioner evidently prejudiced and determined to secure derogatory evidence if possible, the simplest and most innocent events were distorted and given a wrong meaning. The whole proceeding was one of the most cruel onslaughts on an honest, capable but sadly overworked official that was ever traceable to political expediency. The medical profession almost to a man have stood by Dr. Doty, and the loyal appreciation of his great services to the city, state and nation by his colleagues must have been wonderfully gratifying to him. While the physicians who came forward and ably pointed out Dr. Doty's skill and ability as a sanitarian and public health expert, were only doing their duty, it was a fine thing, nevertheless, and a splendid

refutation of the oft expressed opinion that medical men never appreciate ability, skill or genius in each other. It was shown conclusively that Dr. Doty is broadly recognized as one of the world's great experts in preventive medicine. No little part of the substantial progress that has been made during the past twenty years in the prophylaxis of contagious and infectious diseases can be attributed to his excellent work at the main gateway to the United States. During his tenure of office, the nation has enjoyed such perfect protection in spite of the hordes that have poured in from Europe, that the American people have rested secure even when that worst of grim monsters, cholera, was knocking at the door. Can the citizens of New York and the country at large afford to lose the services of a man so skilled and capable and run the necessary risks entailed in installing a new, inexperienced and untried man in a position so vital to the welfare of the nation? Most certainly no, and as long as Dr. Doty can be induced to remain in control of the organization and system of defense he has built up, he should be given a free hand, and relieved of unjust and unmerited attacks. The best measure of a man is his work, and if he is judged solely by what he has actually accomplished in one of the country's hardest and most responsible positions, Dr. Doty has little to fear. But there are other forces at work as the investigation plainly showed, and the politicians may triumph. If they do and Dr. Doty is sacrificed because his position is desired, it will be a sorry day for the American people. It is too much to hope that any one, however capable, could step into such a position and meet its exacting requirements with the same efficiency that Dr. Doty has shown. To fill the position even partly will call for extended experience, and while a new man is acquiring it, who knows what calamities may come? The problem of the moment seems to rest with Governor Dix.

Medical economics seem to be of more than passing interest to the medical profession, for the questions submitted by one of our Canadian readers in last month's issue have stimulated a much larger number of replies than we anticipated. Responses have come from the whole country, and the various questions have been answered with such evident care that it is reasonable to expect their tabulation will furnish no little food for thought. As rapidly as possible the answers to the questions will be arranged and tabulated. The considerable number of replies and the wide diversity of the questions asked, will necessarily entail a large amount of purely clerical work, but we assure our readers that as soon as possible we will present a carefully arranged digest of the responses with comprehensive tables and such deductions or conclusions as seem warrantable. Accuracy is a particularly desirable feature of such an undertaking and since undue haste is always apt to jeopardize this essential detail, we trust that those interested will not become impatient if we refrain from publishing the final data until we are satisfied that they are correct and complete.

ORIGINAL ARTICLES.

TREATMENT OF CHRONIC NEPHRITIS.

BY

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The treatment of chronic interstitial and of "parenchymatous" nephritis will vary according to the period of the disease, and a certain medicament which at the onset might produce untoward results can, on the contrary, be administered with advantage at a more advanced stage of the affection.

There is not, in fact, any treatment for chronic Bright's disease; there are successive treatments, and it is necessary that the physician, following step by step the progress of the disease, shall vary the choice of his remedial measures according to the circumstances supervening in the course of the affection. If certain measures have at times been attended with success, and at others with failure, it is because physicians have not been careful to determine at what period of the disease a certain line of treatment should be employed.

The earlier Bright's disease is recognized and the patient placed under intelligent treatment, the more favorable, of course, will be the prognosis.

The laity should be taught that digestive disturbances, varying from mild anorexia or distaste for special foods to actual nausea and vomiting; irregularity of the bowels, alternating constipation and diarrhea, with quantitative and qualitative variations in the saliva, gastric juice, etc., may be but the early symptoms of Bright's disease.

Not only should these digestive disturbances be seriously considered but. nervous symptoms are very significant such as headache, sleeplessness, mental depression, irritability of temper, etc. These patients tire easily, are peevish, and think they are overworked, when, in fact, the impaired health may be due to the insidious advance of Bright's disease. The early changes in the heart, blood vessels, blood pressure, blood and ocular and aural disturbances; the early functional disturbances of the kidneys with the changes in the character of the urine—all these should be recognized and general treatment instituted at once if the physician is convinced the symptoms point to disease of the kidneys. And whenever we find these changes and symptoms in an individual of middle life or past who has heretofore been in good health we should always think of nephritis as the possible cause.

The mere examination of the urine is not sufficient when seeing a patient for the first time; not only the urine but the heart, vessels, retina, nervous system should be examined critically and the family and personal history and symptoms should be gone into thoroughly, however slight the ailment may appear to be.

But this paper is not devoted to the etiology and diagnosis of chronic nephritis but to the treatment of the malady which is of equal moment for as physicians we fail to grasp the true principle of our profession if we neglect the important branch of therapeutics.

The treatment of Bright's disease is divided into dietetic, hygienic, hydrotherapeutic and medicinal.

Dietetic: In the different affections of the kidneys elimination from these organs is impaired in varying degrees and this fact must be taken into consideration in selecting the patient's diet. In certain diseases of the kidneys the excretion of nitrogenous extractives is greatly diminished, in others the excretion of salts, in some the flow of urinary water is lessened, in others it is increased.

The various stages of the different forms of Bright's disease require different dietary; no arbitrary rule can be followed. It must be remembered that in determining the suitable diet, the condition of the urine is not the only factor to be considered, there are other factors even more important such as the general nutrition of the patient, the presence or absence of dropsy or uremia and the extent of degeneration of heart and blood vessels.

We must remember that in chronic nephritis while the excretion of water can practically be compensated for by the skin, lungs and intestine, the excretion of nitrogenous waste matter cannot be compensated by any other organ, and the retention in the body of these products is much more dangerous than the retention of water.

In chronic "parenchymatous" nephritis the epithelial cells of the uriniferous tubules are diseased, rendering them incapable of excreting the proper amount of nitrogenous excrementitious material and a non-albuminous, non-stimulating diet should be given—a diet which will spare the diseased epithelium but which is sufficiently rich in fat and carbohydrates to keep up the strength and nutrition.

It is especially important to restrict the work of the kidneys in acute nephritis, and it is equally important in chronic renal disease if complications such as uremia and dropsy are present, although owing to the long duration and continuous character of chronic Bright's disease, restrictions cannot be carried to the same degree as in cases of acute kidney disease. It is manifestly unwise to withdraw albuminous food entirely in chronic nephritis, neither is it possible to give a standard of albuminous diet suitable to all cases, or even to the same case during its entire course since the functional power of the kidneys and the needs of the organism vary from time to time.

Assuming that the assimilation of food in the intestine is normal a middle aged nephritic may have approximately one and one-half to two ounces (50 to 70 gm.) of albumin a day which corresponds to one and one-half to two and one-fourth quarts of cow's milk or eight to eleven ounces (250 to 350 gm.) of lean meat or eight to ten eggs.

This amount is probably more than is necessary for the average patient. Indeed, this quantity of albuminous food would be sufficient to maintain the body weight of a healthy man of sedentary habits.

When dropsy is present, and particularly if there is increasing dropsy, the diet should be principally milk, although with only moderate dropsy persisting for months, it is better to give a more solid diet with a minimum of common salt.

A person suffering from chronic Bright's disease may appear to improve on a strictly milk diet inasmuch as the excretion of albumin is lessened and the quantity of urine increased. The state of the urine alone should not blind the physician to other more important matters; the general condition and appearance of the patient and the body weight should be carefully considered, although it should be remem-

bered that gradual increase in body weight may be due to an almost imperceptible increase in dropsy.

It must be our endeavor to so modify the circumstances and habits of the patient as to lessen so far as possible the work of the kidneys. Nitrogenous food should be reduced, although it is unnecessary to abstain from such diet entirely, for we must remember that we have to guard against both uremia and anemia. Authors are by no means unanimous as to the best diet in this disease. All the a priori reasons which have been urged in favor of milk or any other particular diet are fallacious, and the only way to attack the problem is to carefully observe the condition of the urine, not only as to the amount of albumin excreted, but as to its urea, and other waste products as well, and also as to the condition of the patient upon different diets.

A series of observations I conducted a few years ago in the Cook County Hospital, Chicago, revealed the following results:

1. *Quantity of urine:* The amount of urine secreted was greater upon a farinaceous or milk diet than upon a full diet.

2. *Specific gravity:* No special influence was noted, although it was a little lower on farinaceous and milk diet.

3. *The quantity of albumin passed:* There was, strange to say, less albumin passed upon a full diet than upon farinaceous or milk diet.

4. *The quantity of urea passed:* This varied so that no reliable conclusions could be reached; sometimes less urea was passed upon a full diet than upon farinaceous or milk diet, and vice versa. Often also there was less urea passed upon a farinaceous diet than upon a diet of milk.

5. *General condition of patient:* Contrary to the observations and opinions of many noted clinicians, I found the majority of patients did better upon a fairly full diet, as they were less liable to uremic symptoms. While upon this diet, however, free elimination was maintained.

When dropsy exists the amount of salt taken should be diminished to the minimum. A healthy man ingests on the average about fifteen grams of sodium chloride a day. Nearly all of this is eliminated by the kidneys, only a very small quantity comparatively being eliminated by the feces and sweat. The daily excretion of this amount of salt, even twice this amount puts no undue strain on healthy kidneys. If, however, the kidneys are diseased there may be so marked a degree of inadequacy, that not more than two or three grams of salt can be excreted in twenty-four hours. When such is the case it will be found that if the amount of salt is not restricted, the edema will become more pronounced with an increase in weight.

In some cases of tubular nephritis with edema, there is a renal inadequacy for sodium chloride which leads to an accumulation of salt in the tissues, if the amount ingested exceeds the amount excreted. The opposite condition has been shown to exist in some cases of chronic interstitial nephritis. It is wise to study the modifications in the coefficient of chloride excreted in the urine as taking place during ingestion of a known excess of salt. It is also necessary to carefully investigate the patient's body weight from time to time.

French authorities have divided cases of chronic nephritis into three classes. First, those in whom the kidneys behave as in health. Second, those in whom the excretion of chlorides is slightly altered; and third, those in whom this function is seri-

ously affected. In the first class no special dietetic rules are necessary, and meat is allowed provided it is fresh. Special care must be taken that the fish is quite fresh and game also. If there is the slightest difficulty in meeting this provision, they had better be avoided altogether.

For the purpose of treatment a better classification would be: First, chronic Bright's disease, where whether the urine be scanty or abundant, whether dropsy be present or absent, the urine at any rate contains a considerable quantity of albumin. Second, cases of granular kidney. Third, amyloid kidney, now far less common than formerly; and fourth, cases of syphilitic nephritis. In this last named condition the albumin present is very abundant and the case is apt to be mistaken for a serious acute attack. Here a very liberal diet is usually followed by improvement.

Not only in syphilitic nephritis, but in amyloid disease of the kidneys, unless such grave complications as widespread dropsy, uremia, etc., are present, a generous diet is indicated. It is inadvisable to diet a patient on considerations based on the intensity of the albuminuria.

In granular kidney, the quantity of food should be greatly diminished, not only the solid food but the amount of fluids taken, while alcoholic stimulants and tobacco should be forbidden absolutely.

The character of the food partaken of in this disease should be of the simplest and plainly cooked. One small meat meal may be taken once a day in the majority of cases, but no highly seasoned, spiced, smoked or concentrated meat should be used, although it is unnecessary to restrict the diet to fish and chicken. A moderate amount of red meat even, may be eaten, the diet being determined very largely by considerations based on digestibility and proper assimilation rather than on the richness of the food in nitrogenous extractives. Most vegetables, save asparagus and rhubarb, are suitable for these patients.

In ordinary chronic Bright's disease the same principles should guide us in the selection of diet.

Every fifteen days or so it is advisable to restrict the patient to a milk diet over a period of three or four days. In cases where the functional activity of the kidneys is seriously affected, with a greatly diminished excretion of chlorides, accompanied by marked dropsy, uremic symptoms, etc., there is only one safe regime namely, a milk diet.

The famous ultimatum "milk or death," which has probably been much abused in the treatment of nephritic patients, here becomes fully appropriate. It is in this class of cases that serious results follow the eating even of a little fish or chicken. Thomas J. Horder, M. D., of England, believes that oftentimes when patients with chronic nephritis suddenly develop fatal uremia it is highly probable that a full investigation of the case would disclose some such simple but fatal error in diet as the exciting cause. "There is hope," Dr. Horder adds, "that before long studies in metabolism may evolve some simple tests by which the medical man who is not a chemist and has not got his patient under such direct observation as is the case in hospital practice may be enabled to adjust the diet much more adequately than is at present possible."

Hygienic: If possible nephritic patients should be free from care and anxiety and should limit the amount of their mental and physical work, although a moderate amount of daily exercise should be taken:

and they should dwell in a climate that is warm, dry and equable; equibility being of more importance than warmth and dryness, since the invalid may keep within doors after sunset.

The healthy performance of the functions of the skin is an important point in the hygiene of Bright's disease. We all know the intimate relation which exists between the functions of the skin and those of the kidneys. Authorities have long been in the habit of prescribing free sudation in Bright's disease, whether by hot-air baths, by vapor baths, or by the employment of hydrotherapy. In the employment of any hydrotherapeutic measures we must avoid every cause of renal congestion, and in the application of hot air and cold water by unskilled attendants which are practised in Turkish bath parlors, it often happens that there is an aggravation rather than an amelioration of the disease.

Mineral waters are often beneficial. They increase not only the water constituents, but the excretion of the waste products of tissues, metabolisms which are washed out from the tissues and the blood itself. Both laxative and alkaline-chalybeate waters are valuable.

Drug Treatment: Drugs have their places in the treatment of chronic nephritis it is true, but, after all, the little, yet very essential things of eating, drinking and doing, influence the patient's comfort and gradually turn the scale of health in his favor.

A good prescription to keep a patient on who is suffering from interstitial nephritis is the following:

Iodide of sodium, 15 to 30 grains.
Phosphate of sodium, 30 to 45 grains.
Water, 1 quart.

This can be taken freely as a drink. It is a good eliminant, besides, the iodide is a vasodilator and of great value in progressive lessening of elasticity and contraction of the smaller arteries. Moreover, this combination modifies the state of albuminoid substances in the blood to some extent.

When compensation fails, digitalin may be necessary, but it should be combined with some vasodilator to overcome peripheral resistance.

Such drugs as sodium nitrite, spirit of nitrous ether and glonoin, as well as the iodides and opium are of value here. The nitrites have only one objectionable feature. They are much more rapid in their action than digitalis, while their effect is more transitory. In bad cases, I am more partial to opium. It acts with about the same rapidity as digitalis, strengthening the heart, rendering the pulse fuller and firmer, and dilating the arterioles. It is of additional value in many of those cases on account of its hypnotic, analgesic and antispasmodic action. In the doses employed, it does not seem to make much difference in the elimination of waste products. From two to four minims of the deodorized tincture are usually sufficient. Perhaps a better combination would be digitalin and morphine, because of the uniformity of strength of the alkaloids. It must be remembered that in nephritis there is a general arteriocapillary fibrosis; the arterial tension is high. The blood vessels usually are contracted and inelastic so that, theoretically, digitalis would be an unsafe drug to give continuously, because of its action upon the blood vessels. That is the reason I suggest that when it is used it should be accompanied by some vasodilator; and while opium and its alkaloids act with about

the same rapidity as digitalis or digitalin, opium even in small doses may tend to lock up the secretions to some extent, while such a remedy as glonoin has no influence upon elimination and if this drug is given properly great benefit can be derived from its use. A dose just large enough to overcome the vascular tension should be given at first, and as the system becomes tolerant of the remedy the dose should be increased; but even with the utmost care the effect of glonoin is too transitory to derive the best results.

Erythrol tetranitrate and mannitol hexanitrate are organic nitrates that have an action similar to that of sodium nitrite. The effects are more prolonged however. Erythrol tetranitrate, for instance, exerts its full effect after the action of glonoin and sodium nitrite has subsided, and it would, therefore, be the best nitrite to use along with digitalin in these cases.

There is a remedy, however, which as a vasodilator in cases of chronic interstitial nephritis, surpasses them all, and that is veratrine. The drug also is a stimulant to excretion. It is not depressing, as many physicians believe, when it is given in proper doses—one-half milligram, or 1/134 of a grain—is perfectly safe and may be repeated every half hour or so until the pulse is relaxed. It is unnecessary to increase the dose above this. By careful administration the vascular tension may be maintained at almost any desired point for indefinite periods. Its action is uniform and its effects certain and unvaried. It is a drug that deserves much more extended use. As a general cardiac tonic strychnine is unsurpassed.

To combat the anasarca, and the multiple consecutive effusions, the dyspnea, convulsions and other uremic symptoms, we may have to resort to the successive and even simultaneous use of stimulants, diuretics, purgatives and diaphoretics. There is little choice in the remedies to be used in these conditions, the up-to-date physician being perfectly familiar with the medicaments and measures best suited to the various serious symptoms to be overcome. For marked dyspnea, aspidospermine will be found very efficient.

At certain stages of the disease, especially if the patient is very anemic, Basham's mixture will be of great value. We should not forget that purgatives play a very important role in the treatment of chronic nephritis, and fulfill three great indications: First, in determining an irritation upon the intestinal mucous membrane, they produce a revulsion from the inflamed kidney; then in bringing about a hypersecretion from the glands of the intestines, they deplete the vascular system and thus combat the anasarca and edema which accompany the nephritis; lastly, and especially, they enable the solid and toxic matters of the urine, in cases of uremia, to find a supplementary way of excretion. This last mode of action is, in my estimation, far the most important, and free purgation is especially beneficial in interstitial nephritis, and by the judicious use of purgatives and free elimination, we may greatly prolong the lives of the victims of this disease.

The following formula I have found of great value as a hydragogue cathartic in chronic nephritis:

Chionanthin	gr. 1/6
Apocynin	gr. 1/8
Leptandrin	gr. 1/6
Podophyllin	gr. 1/16
Irisin	gr. 1/6
Asclepidin	gr. 1/6
Powdered extract colocynth comp.	gr. 1/3

One or two capsules or tablets of this size may be given three or four times a day to effect. The exact and full action of this combination has been thoroughly discussed in another paper of mine.

Entertaining the views I do, regarding the chief etiologic factors of this malady and the consequent pathologic condition, it is difficult for me to understand how splitting the capsule or even a stripping back of the capsule as far as the hilum, which has been highly recommended, would alter the pathologic process in the general circulation. I think it is but another case of "The man behind the knife."

I believe that a too narrow view of the nature of nephritis—regarding it as an affection limited to the kidneys—may be a source of difficulty in our proper understanding of the pathology of the disease and its great variety of forms.

Recovery from chronic nephritis, under any treatment is rare, but we should not forget that to prolong the life of our patients and render them comfortable, are results worth striving for. Remember that each patient must be treated individually; that there is no dexterous legerdemain required; but a thorough understanding of the etiology and pathology, natural processes, clinical course, and perfect familiarity with the therapeutic measures employed, are necessary to insure success.

SURGICAL HINTS.

If a patient prepared for ureterolithotomy has a sudden surcease or an exacerbation of pain—and even without these if the stone is quite small—have a final skiagraphic exposure just before operating. If the stone has slipped into the bladder it is better for both patient and surgeon to discover this by the *x*-ray than by the knife. —*Amer. Jour. of Surg.*

A FEW REMARKS ON COCAINISM.

BY

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Cocain, the alkaloid to which coca owes its special properties, was not discovered until 1859, but the plant itself was known since time immemorial to the Peruvian Indians, who employed it as an offering to the sun, or to produce smoke at the great sacrifices; and their priests chewed it during the performance of religious ceremonies, otherwise the gods would not be propitiated. Even now the plant is held in wondrous esteem by the miners of that and other tribes, and they believe that it softens the veins of ore, if masticated and thrown upon them. It seems perfectly reasonable, however, to attribute this superstitious veneration to the stimulating power of cocain on the nervous system; a property so well described by the verses of Cowley, who represents the Indian "Pachamma" as addressing Venus thus:

"Our 'Varicocha' first this coca sent,
Endow'd with leaves of wondrous nourishment,
Whose juice succ'd in, and to the stomach tak'n
Long hunger and long labor can sustain;
From which our faint and weary bodies find
More succour, more they cheer the drooping mind,
Than can your Bacchus and your Ceres join'd.
Three leaves supply for six days' march afford,
The 'quitoita' with this provision stor'd
Can pass the vast and cloudy Andes o'er."

It is no exaggeration to state that coca at the present time is used by 8,000,000 of the human race, and lavishly so in Bolivia, Ecuador, Colombia and Rio Negro. In Peru labor is suspended three or four times a day for the mastication of coca, two or three ounces of the leaves being thus daily consumed by each laborer.

The different writers who made observations on coca-chewing among these races,

disagree almost diametrically in their reports as to the consequent effects of the habit; some stating that it is as detrimental to the health as opium-eating; others, that, notwithstanding the habit almost from boyhood, there are numerous instances of longevity and good health; some even stating that coca, "when fresh and good and used in moderate quantity, increases nervous energy, removes drowsiness, enlivens the spirits, and enables to bear cold, wet, great bodily exertion, and even want of food, to a surprising degree, with apparent ease and impunity."[1] But in general they all agree that if taken to excess, it gives rise to "tremor of the limbs, and to a gloomy sort of mania."[2]

To obtain a clear conception of the evils produced by the persistent and immoderate use of the drug, however, it is best to consider somewhat closely the "cocain-fiend" of our civilization; and in this connection I shall recall a few observations which I had the opportunity of making during my five years of service in a drug-store neighboring that section of this metropolis which is popular under the name of "China-town."

Perhaps the most accountable reason for the rapid spread of cocainism in this glittering spot lies in the fact that the drug was extensively used to relieve the distressing symptoms of the opium habit; the victims thus falling in the snare of a worse fate. Among other factors may be mentioned the indiscreet curiosity aroused by the very injudiciously conducted anti-cocain crusade of 1904, issued by a downtown reverend; and the criminal advertising of the supposed-to-be catarrh powders, such as Birney's, Gray's, Crown, etc.; all of which have been responsible for the many sporadic cases which, as cocainism is never isolated, resulted in many other invasions.

The cocain-habitué of the modern epoch has followed the steps of progress very closely, hence he does not indulge in the ruminant act of chewing leaves and the like, *"tempora mutantur et nos mutamur in illis"*; nor is he engaged in perpetually puncturing his cuticle with the hypo-needle, which is the prevailing opinion; indeed, out of about 1,000, I scarcely recollect of three or four instances of exclusive hypo users, and these were at the same time morphine-fiends. Nay, what is there more ideal than the gentle snuffing of the flakes from a quill tooth-pick, or, still more scientific, from a small glass cylinder connected with a rubber-fitting as a blower? The effects follow almost immediately, and the gloomy, pathetic physiognomy characteristic of the "dope-fiend," changes to an expression of content and exhilaration. Eventually he will stretch his arms outward in quick, repeated jerks, then move lively about, and become very talkative. A typical example of this kind was a young man whose occupation—if these people ever have any fixed one, which is very seldom—was to come in the store every morning to do a little rough cleaning. Before his system would be cocainized, his mental state was in a profound languor and apathy; and physically—aside from the sexual desire, which seems to be invariably lethargic—his faculties were in such a condition of torpor, that he either would not, but more probably could not get into action before getting "a whiff of the stuff." Another, a Jewish fellow, who was very clever in drawing sketches of passers-by or by-standers, would often come around to get "enough to give his pencils a start," for, as luck would have it with him, he was

[1] Tschudi, Travels in Peru.
[2] Markham, Travels in Peru and India.

usually penniless. On a bitterly cold morning, as I was about to open the store, I found him lying with his back to the door; he was extremely emaciated; his eyes had almost disappeared within the bony sockets; the skin, which now hung in folds, looked of a dark, yellowish tint, and I would have hesitated to decide whether I was looking at a corpse or a living being, were it not for the ghastly look that he turned in my direction. Upon my questioning him, his only answer was in the form of a general tremor; I well understood the meaning of this wordless speech, and, when revived, he told me how he had gone without food for three days, and his bowels had not moved in five days; a state of affairs which is of frequent occurrence in these individuals. The above, however, are examples of a more or less mild temperament; a type not very uncommon, and characterized by the fact that, if the dose be not repeated, the sense of exhilaration is gradually supplanted by a sort of psychalgia, which they bear with a comparatively calm submission, until the inevitable physical prostration makes it imperative to recur to the drug.

Another type, and probably the commonest, is that in which the nervous phenomena are manifested in the form of hallucinations and delusions; so, some of them will often point to imaginary insects or worms, which they see crawling under the skin, or beneath the fingernails, for the removal of which they sometimes bleed their fingers profusely with penknives or nail-files. Other times they will swear they saw a mouse cling to a woman's skirt, or a snake wound around someone's neck. A druggist friend of mine told me that on several occasions he saw one of these victims run along the gutter as if trying to catch something; indeed, on every occasion the object was a brand-new gold coin which rolled right into the sewer! Often—probably as a result of self-analysis and condemnation—they will complain of persecutors who have followed them for great distances; or of hearing vile words, or scolding, threatening voices; and they will sometimes blame a by-stander of revealing publicly their most secret thoughts. It is almost absurd to state that the cocain-fiend, if a celibate, ever contemplates matrimonial bliss, but, when it happens that one, or, more often both principals of the family acquire the habit, connubial accusations of the most grotesque and ridiculous character imaginable are the rule. Another observer related to me the case of a cocaine-habitué—whose great eloquence and propensity to lie had gained him the title of lawyer—who would often complain that a certain young lady was petulantly and persistently annoying him with matrimonial propositions; but the person to whom he referred was congenitally deaf and dumb, and when told so, he insisted that she only simulated such condition, as she did not care to speak to anyone else in the world. This case was also interesting for being one of those that should be considered rather as narcomania than simple cocainism, for the fact that the victim would often interchange drugs, by injecting morphine in the abdomen, or, when this region was well covered with sores and crust, he would swallow six or seven grains of it at one time.

To still a third type belong those cases which are really an exacerbation of the above, and which show the same psychical and physical phenomena, but in such an aggravated form that the sufferer becomes dangerous to himself and to the community.

Charles J. Douglas relates of one of his patients—a physician—who went to an upper room of the sanitarium, removed his garments, and by way of a fire-escape, went down to the ground to avoid imaginary insects which had infested his room. There he was to have found a clean suit of clothes, "but the cool morning air against his unprotected cuticle caused an arrest of thought and he accordingly made as rapid strides toward shelter, as his unhampered limbs permitted." Not infrequently the exacerbation of the attack is such that it becomes entirely maniacal in character. One of this type, a very powerful negro of considerable intellectuality, I particularly remarked, in whom the inevitable resort to the drug would cause wild, unrestrainable excitement, during the paroxysms of which he would shout, bustle vehemently about, and gesticulate in a menacing mode.

Has cocainism come to an end since the enactment of the new law? Though somewhat more under control, it has not by any means been eradicated, for the very reason that importation of the drug by habitués themselves from other states and clandestine distribution is being carried on, and it will continue until all the states take more practical and effective measures to overcome this abominable scourge of the human race.

SURGICAL HINTS.

In examining for joint disease in children, the element of fear must always be considered. A frightened child will manifest more or less muscular resistance and tension, which may deceive the examiner as to the true existing condition. Therefore it is well to divert the little patient's attention by letting him think that the various manipulations are only a game for his amusement.—*Int. Jour. of Surg.*

VEGETABLE AND FRUIT FOODS.

BY

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The science of living begins at the mouth. As a man eats and digests his food so he is. Owing to errors in human feeding, disease is latent in man at all times. The few that do not abuse health have the rewards which follow upon it. Scarcely anyone escapes sickness and pain. Life is maimed and but half what it might be on account of sickness and premature death. Sound health means living by knowledge and not by chance.

Grains and cereals, vegetables and fruits are only good, but cooks spoil most of them before they reach the human palate. Conventional cooking is far from blameless in the causation of disease. Artificial appetite and gluttony please for the moment, to be followed later by compound interest in pain and bodily distress. The mouth is the open door to health and strength, likewise to self-injury and early destruction.

True hunger is the gauge that tells how much to eat. Taste recognizes what is good and directs how long food is to stay in the mouth to be acted upon by saliva, while the sense of sight is always on guard to aid taste and smell in selecting the wholesome and to reject the harmful substances offered as food. With hunger, sight, taste, smell, all acting in harmony, the stomach is safe.

Wrong table habits early acquired, often abuse the hospitality of the stomach. The first warnings of injury to a gentle, patient stomach, are mild, followed later by biting protest against further abuse; finally after

much suffering, many protests, and great injury, disease is established. Then comes malnutrition, disability, weakness. But, fortunately it is often not too late to mend.

Digestion properly performed, by the stomach and its juices is only in those instances in which the foods are correctly selected and aided by gentle cooking. Owing to the artifices of modern cookery, the sense of taste is confused, the smell is bewildered and appetite is uncertain, depraved or exaggerated. Such delicate sense tools need careful and trained handling lest their usefulness be lost. If these human instruments of precision are to last and be useful till age is ripe, beware of abuses and rough usages.

Foods are forced into the gullet and stomach rapidly. Coffee and other drinks distend the stomach, table haste is the rule, too much is eaten, the common practice of young and old. The stomach is too quickly loaded, and with too much food that is indigestible. Eagerness to eat meats, gravies, fats, cream, milk, eggs, to drink coffee or tea, beer or wine, and a desire for an over generous variety, swamp the digestion.

Eating and drinking for health and strength are two of the finest arts in the life of the human being. But neither eating nor drinking can safely be left to human instinct or customs. These are processes so delicate and subtle, and far reaching in their consequences, that it is not safe to trust to the instinct alone, unguided by intelligent forethought and experience.

Social custom has made modern dining a prolonged misdeed against the stomach. Dining for sociability would not excite protest were it practised with a due regard for the higher uses of food as a means of satisfying natural hunger. By virtue of the fullness of vitality, it is common to fall into the habit of table wrongs, and apparently be well.

In reality, so delicate are the organs of digestion, that even slight errors of the diet may bring on disease and fatality. If the mouth were taught to reject what is unfavorable in the selection of food, and if food was in the proper proportions, and quality, no one could know by any unpleasant sensation of the existence of a stomach. In health there is no consciousness of internal organs or processes.

It is so ordained that a man may live to an age of sixty or seventy years, but to suffer half his life from disease is not satisfactory living. A life under right habits of living is worthy of every man's best efforts. Living according to the intent of nature should carry human age above one hundred years and the last years ought to be the pleasantest. Honor and respect are due to the old, especially, that old age, the reward for prudent control and righteous living.

A man frequently wants to die after he finds that his power is failing and his nerve lost. Loss of vitality and shattered nerves are usually ascribed to overwork and overworry, but a truer explanation is indigestion. Overwork of the stomach by foods that are not wholesome, constitutes the first weak link in the chain of health. Such food material as is not in a state of adaptation for easy solution when it reaches the stomach may, and usually does, lay the beginning for consumption, cancer, tumor, abscess, rheumatism, neuralgia, neuritis, paresis, paralysis, Bright's disease, apoplexy and nervous breakdown.

Every care is to be taken to preserve a sound stomach and this is most successfully accomplished by great attention to food while it is yet under the control of the hands, the sense and judgment. The importance of thoughtfulness in food selection is a matter that cannot be overstated. It assures certainty of digestion, and saves the stomach from fag and disease. A sound stomach is the surest means of avoiding sickness in other parts of the human body.

If the stomach is over-served with heavy, fatty food, and especially, if such food has not been partly dissolved by correct cooking and ripening and softening, some part of it passes into the system in a state of incomplete digestion. Dyspepsia and indigestion are widespread, and by reason of such defects at the very source of strength, the body is weakened and accumulates sediment faster than the system can remove it.

A single mistake is but a trifling incident in the whole life of the body, but many such happenings, day after day, build surely for sickness, suffering and premature death. Let anyone take note of the passing hence of friends and acquaintances, and who is there that can truly feel safe?

Health and safety depend on right habits guided by knowledge and not by a belief. Physical human requirements are not to be neglected under the supposition that some power, outside the body, will save man in the face of his oft repeated mistakes. By taking heed and accurately supplying the needs of human life, it is reasonable and right to expect immunity from suffering and disease.

The disease called grippe or influenza, for example, originates in consequence of some defect in nutrition. It is impossible to acquire foul blood and consequent bodily disorders where right feeding is the daily rule. Such diseases are not to be treated at the point where they first show themselves. The discharges of the nose and throat in such cases are convenient spots selected by the disordered system to give warning of the revolt going on within the body.

The disease is inside the organism, later it appears upon some part situated nearer the surface. Mucus or yellow pus from the throat, nose or lungs is the effete product from diseased blood. The system is trying to remove the waste by forcing it to the point of least resistance, such as the nose or throat, that it may be thrown off.

A scientific treatment of disease begins by kindly prohibiting the entrance into the stomach of all objectionable food substances, till such time as the blood can free itself from the waste with which it is surcharged. It may take the blood a few days, even a few weeks or months, to so renovate itself as to make it safe to again return to the usual quality and quantity of table food.

The scientific physician of experience will observe, patiently and confidently, the patient's need for nutrition, as unmistakably shown by weakness, and loss of weight. It is good treatment to offer what is delicate, pleasing light food, to a sick person. Nothing is ever lost by encouraging the return of the desire and relish for foods, and everything is gained for the good of the patient.

Let not your fear of complications, or your theories of fasting, or waste of a patient's strength, cause any neglect of sustaining nutrition in the scientific treatment of the unfortunate sick. The hunger signal will appear in due time, but if it should not come, it shows that the case is hope-

lessly fatal, in such cases it would be wholly useless to force food.

The alimentary canal is the root of life. The weight of the body depends upon the amount of food that it can prepare and absorb, while strength and bodily comfort depend upon so much as is perfectly converted and assimilated. Perfect digestion depends upon health of the vital organs, and in turn, perfect health of the vital organs depends upon favoring foods and correct use of them.

It is seen by this interdependence between vital parts and digestion, that continuous health rests upon an even balance of forces, acting in harmony. If the food is proper and digestion perfect, nature has a fair chance to show itself in the beauty of health.

Mental and physical wrecks of human beings are directly traceable to mistakes which start at the mouth. It seems strange that man's food, his best ally, can at the same time be his greatest danger. Food may be good and wholesome, but it is not to be admitted into the stomach till it has been inspected and passed as safe, suitable and bland. It is a common mistake to think strength possible upon scanty food, on the contrary, physical endurance is a matter of perfect digestion and full eating.

Temptations of the table and sideboard appear hard to resist, habit is strong and holds on with a tight grip. Children are misfed as a rule from the beginning, thus creating a bad tendency before the infant leaves the nurse. Child sickness and disease are produced by imperfect nutrition, poisonous foods and beverages and in no other way, save in rare cases. Man's sickness arises in the same manner.

Children have many narrow escapes from death, but reserve vitality carries some of them to mature years, even affected with disorders and disease all along the way. In spite of daily and oft repeated errors, children manage to live and grow, but many are stunted and deformed by the time the growth is finished. False table habits begun in the early years of life are next to impossible to correct.

Ailment, sickness, disease, the results of inherited habits from ancestors, are continued from generation to generation. Man's infirmities, weaknesses, and derangements are, principally, because he wrongs his physical body by taking into it flesh, fat, milk, eggs, and other animal products, all substances that easily putrefy and produce poisoning of the blood, lymph and secretions of the vital organs.

Animal flesh did its part in the evolution of man in ages that are past and gone, but in this day, with better understanding, new enlightenment, the animal diet for man is disappearing more and more, as it should under the law of progress.

The plant, vegetable, meat-substance of seeds and nuts, the pulp and juices of fruits, now obtainable all the year round, are wholesome table food for human beings. A new race will come in time, nurtured on this food, a race of higher, better, longer-lived beings, healthier and happier.

Table food preparation is an exact science; the cook in the kitchen cannot be expected to appreciate the essentials for nutrition, wonderfully sealed in the capsules of the tiny vegetable cell, and the delicacy of handling to render the perfect food acceptable and rightly prepared for the human body.

The only reasons for an animal diet that explain its use are, that the world has never had an abundance of fresh plant food and fruits available at all seasons, and that the

vegetable diet has not been studied and served, naturally, properly, and acceptably, thereby creating distrust, and a belief that plant life was not able to sustain human life without the addition of flesh meat.

The truth is, plant and vegetable foods are man's fit, proper and natural diet.

The list of favorable edibles is extensive, the better articles are in the following enumeration. The quality and service of any food material rests largely upon the mode of preparation and use at table. The best foods may be spoiled in the kitchen. The cooking of foods for table use is a calling that is second to none, a worthy, high, noble profession, or work.

TABLE OF FOOD ARTICLES.

Tomato, celery, radish, beet, turnip, carrot, cabbage, asparagus, squash, potato, onion, spinach, kale, lettuce, cucumber, romaine, endive, oysterplant, kohlrobie, knobcelery, rhubarb, melon and some others.

Apple, peach, plum, pear, orange, lemon, grape-fruit, banana, pineapple, raisin, apricot, berry, cherry, grape, cranberry, fig, date, prune.

Bean, pea, rice, wheat, oat, rye, barley, corn, hominy, macaroni, honey, bread.

Peanut, pecan, walnut, hickorynut, almond, filbert, brazilnut, chestnut, pinenut.

Oysters, fish, poultry, meat, eggs, milk, cream, butter, cheese, game, are unfavorable human foods; if used at all, it should be sparingly or in emergencies.

127 W. 58th St.

SURGICAL HINTS.

In amputations on diabetic subjects it is advisable to dispense with the tourniquet whenever possible, owing to the effect of the constriction upon the poorly nourished tissues. For the same reason it is important to avoid any forcible manipulations.—*Int. Jour. of Surg.*

STATUS OF PATHOLOGY IN THE MEDICAL SCIENCE OF MODERN TIMES.[1]

BY

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Although well aware of the cynical indifference of the modern physician toward the efforts of the pathologist to unravel the mysteries of disease processes by means of chemical tests and microscope, I deem it my duty in a few words to exhort the medical brethren to a closer watch of the progress of pathology, as in this field I expect within the next few years to see discoveries or inventions to come forth, which may in a stupendous measure revolutionize the practice of medicine of the near future.

Surgery and therapeusis have in the last decade been practically at a standstill, if my observations are correct; certainly nothing new in these branches has been brought out during the last decade, which could be called startling or epoch making.

Compare with this fact the success pathology has achieved in its laboratories in different directions and you will readily acknowledge that the laboratory man has easily outstripped in progress all his brethren of the other branches of medicine, and therefore deserves the crown of reward which in my estimation the future has in store for him.

In a brief way permit me, gentlemen, to review the work of the pathologist during the last decade.

In 1898-1900, Dr. Ehrlich brought out the so-called triacid stain which made it possible for the average student to dif-

[1]Read before the Society of Bethany Deaconess' Hospital, March 28, 1911.

ferentiate easily the various cell bodies in the blood; as a result thousands of observers investigated the blood changes under various physiological and pathological conditions and thus gave us a new branch in medicine, hematology, the science which has positively determined the functions of the blood and its constituents. In 1900 no patients had to submit to any blood tests, today in every up-to-date hospital practically every patient has to pass through this procedure and some of them many times, in order to obtain the amount of hemoglobin or the color index, or number of red cells, their shape and color, or to count the white cells as to their total number, or to count the polymorphonuclears in contradistinction to the lymphocytes, small or large, or eosinophiles, etc., etc. Many other excellent stains have during the last decade been discovered, and to our honor it may be said, that the Americans have held their own in this field, thus making it possible to closely observe the blood changes in different diseases and under varying conditions and view without the possibility of an error the result of the various medications upon the organism during the existence of the various ailments.

In the course of such investigations brilliant minds developed special theories, some of which, like the "opsonic index" have not been able to stand the criticism of others, while quite a number are now accepted as thoroughly feasible and generally adopted as scientifically correct. To the latter belongs preeminently "Gibson's scheme" which deals with the resisting power of our body as recognized by the relative percentage of neutrophiles compared with the total number of white cells in diseased conditions; Gibson maintains that for every 1,000 leucocytes above the normal 10,000 per square millimetre, the percentage of neutrophiles should increase by 1% in order to prove normal resistance:

75% 10,000
80% 15,000
85% 20,000

Any deviation from this scheme means great disturbance in the power of resistance.

A high percentage of neutrophiles in face of a low white cell count indicates a serious case, demanding quick decision. An increasing percentage of neutrophiles with a stationary low white cell count usually indicates a fatal case.

A *pari passu* increase of both indicates good resistance and favorable outcome, unless the difference at the beginning of the rise is too great, 85% against 10,000 increased to 90%—15,000, in which case the outcome is probably doubtful. These conclusions may however be thwarted by the presence of pneumonia, typhoid, leucemia and other diseases, having powerful influence in the make-up of the blood constituents.

Wright's "opsonic index" as to digesting power of the white cells has been generally discarded and may therefore be dismissed from discussion. Wright's "opsonin theory" however, holds good; it consists in the theory that certain opsonins (digestive elements circulating in the plasma) coat the bacteria with a film of their own substance and thus invite the white cells to become active in the process called "phagocytosis," the destruction of the invading enemy by digestion.

Men like Ehrlich, Bionde, Gardini, Wright, Grawetz, Stengel, Pepper, Welch, Cabot, Sahli and many others have con-

tributed their mites to this work, but time does not permit to more than mention their names in this crude paper, and I will pass to a closer consideration of the status of "leucocytosis," a condition thoroughly investigated by above named scientists and presented to us as one of the most valuable additions to modern medicine.

Leucocytosis as we all know, means increase in number of white cells of the blood, independent of numerical relation of the various types to each other; ordinarily 6-10,000 is considered the normal number in a healthy individual in a cubic m. m. (1/70 of 1m.).

This increase of white cells is universally recognized as the effort on the part of our economy to fight off an invading disease. It is therefore found in practically all acute ailments, viz., infectious diseases, local inflammatory processes, serous and mucous inflammations, acute skin troubles, all toxemias, as well as in quinine, salicylic compounds, phenacetin, chlorate of potash, chloral hydrate poisoning, also in gas asphyxiation, gout, rickets, acute yellow atrophy of liver, advanced hepatitis or nephritis, also after tuberculin and thyroidin injections and after saline infusions, and usually in malignant tumors. It is not present in typhoid which is a great help in differentiating the latter disease from other intestinal disorders, and may here even show a subnormal count with a reversal in the relative numerical position of the neutrophiles and the lymphocytes, showing occasionally 20% of neutrophiles and 80% of lymphocytes. A similar condition may obtain in leucemia and Graves' disease, a very important point in their diagnosis and prognosis.

In Graves' disease the prognosis is bad if the neutrophiles do *not* show a marked decrease in number!

Leucocytosis is found normally in:

1. Newborn.
2. Moribund.
3. After parturition.
4. After violent exercise, massage, or cold baths.
5. After severe hemorrhages.
6. A hearty meal of proteids.

The following factors may reasonably be accepted in inflammatory leucocytosis:

1. Infection mild, resistance good, small leucocytosis.
2. Infection moderate, resistance less good, moderate leucocytosis.
3. Infection severe, resistance good, very marked leucocytosis.
4. Infection severe, resistance poor, no leucocytosis.

The course of leucocytosis as regards amount and duration shows, like the temperature chart, certain more or less characteristic differences in different cases.

For instance, in lobar pneumonia, erysipelas and scarlet fever we see a great increase of the absolute number of white cells, but mostly confined to the polymorphonuclears; whereas in measles we see *no* increase of the absolute number, but a great increase of the polymorphonuclears *solely,* beyond their normal percentage.

No direct connection exists between fever and leucocytosis, many fevers running their course with a normal leucocyte count. When both leucocytosis and fever are due to the same cause however, they rise and fall together, but the correspondence is rarely accurate and marked leucocytosis may exist without any fever in some diseases.

Acute, rapidly spreading inflammations seem to produce a greater leucocytosis than those in which the process is relatively

chronic and stationary. For instance: an appendicitis, when walled off and stationary, shows less increase in white cells, than when the lesion is progressive. But very acute overwhelming general sepsis may have *no* effect on the leucocytosis, the reactive power of the organism having been crushed and destroyed.

Leucocytosis may help in differentiating carcinoma from ulcer or tuberculosis of the intestines or gallstone colic. The return of a leucocytosis after removal of a malignant tumor means return of same or metastasis. So much for the results of the hematologist.

The following case will illustrate in an emphatic manner the necessity of resorting to laboratory methods in our difficult cases:

Some years ago the writer was called to see a patient, Mrs. E., who had been given up by her previous physician as incurable. The woman was lying in bed and informed me that she had been unable to get up on account of her great debility and her harassing cough, which troubled her severely day and night for about four weeks, in spite of the best efforts on the part of her physician to give her relief. On inspection the woman gave the impression of being a chronic toper, her complexion presenting that dusky red shade with a faint suggestion of cyanosis which we often see in alcoholics, afflicted with pulmonary disease. History revealed progressive emaciation with loss of thirty pounds in six weeks, persistent cough with the ejection of tenacious greenish mucus; vomiting, which I promptly attributed to alcoholic gastric catarrh, anorexia, painful deglutition, with marked hoarseness of speech; dilated pupils, rapid heart action, intermittent attacks of fever, with slight hemoptysis recurring at irregular intervals; temperature 101 degrees. Palpation showed normal fremitus anteriorly, but marked vocal fremitus posteriorly between the two shoulder blades, mostly on left side. Percussion: dullness over same area, about four inches in diameter.

Auscultation: high pitched respiration over the said area, with prolonged respiration, coupled with crepitant and subcrepitant rales in abundance: Diagnosis, peribronchial tuberculosis in the second stage. *No microscopical examination was deemed necessary!*

Prognosis: Very bad in the light of the great ravages the disease had created in such a short time.

Treatment: Guaiacol, codeine, arsenic, tonics, milk punches and all other then known means of harassing a patient toward his grave.

After seeing the victim for about two weeks every other day, I signified to her husband my intention of quitting the case, leaving the prescription for a general tonic and instructions to call me up in case of a sudden collapse or change in her condition.

About three weeks after this call, I was hailed by a healthy buxom woman on the street, whom I did not recognize, but who said her name was Mrs. E., and that I had treated her for her lung disease. She wanted to thank me for that wonderful prescription I left with her on my last call, and seeing the astonishment on my face at the wonderful change in her appearance, she said: "O, doctor, after I threw up that set of teeth I had swallowed weeks ago, I picked right up and I don't know how to thank you for saving my life. God bless you and may you always have good luck in helping the poor!"

But in other fields the patient pathologist has covered himself with glory. It is only three years now that we have positive proof of the existence of the syphilitic germ, tricophyton pallidum, and only a few years that we know of the germs of spotted fever, the sleeping sickness, yellow fever and other ailments too numerous to mention and thus have we now the wedge towards the early development of their specific antitoxins, such as have already been prepared

against diphtheria, cerebro-spinal, typhoid and yellow fevers, gonorrheal and other antitoxins. Especially near its solution do we see the problem of anterior poliomyelitis, that scourge of childhood, which has baffled the skill of the best physicians for centuries and turned untold thousands into cripples for life.

In the physico-clinical line the progress has not been so marked, but here the accomplishments of the pathologist have given us ready means of ascertaining the condition of the intestinal tract by means of the indicanuria test; pancreatic disease by means of the Cambridge test; syphilis by the Wasserman reaction. The discovery by Ehrlich in 1910, of "606 or Salvarsan" for the cure of syphilis is particularly worthy of mention.

A much improved method of obtaining the exact amount of albumin in urine, and many other less important discoveries have been given to us, making the burden of the diagnostician less cumbersome and thus outlining the course of treatment more definitely.

The value in the industrial line wrought by the laboratory man, is outside the scope of this paper.

While the author admits that it would not be sapient to be guided absolutely by the findings of the pathologist, he feels compelled to urge the more frequent use of his measures in cases of obscure ailments as an adjunct to the other ordinary methods of diagnosis and to give his results the proper amount of consideration without the cynical contempt with which his efforts have been received by many who do not see fit to personally convince themselves of their value, but without proper trial condemn them to the oblivion of forgotten fancies.

The drudgery of the laboratory physician is more heart and brain wrecking than that of any of his brethren in the other specialties and he deserves better recognition, not for the sake of pity for his patient devotion to his work but for his actual accomplishments in the advancing of medicine toward the long aspired position of a definite science.

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CRYPTOGENETIC METASTATIC UVEITIS.

BY

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Jonathan Hutchinson wrote in 1872[1] "Rheumatic Iritis is a disease which in this age of specialisms is very apt to be pushed to the wall. Some intelligent observers are accustomed to receive the diagnosis of "arthritic" iritis with the utmost disgust. I believe most confidently that iritis due to the arthritic diathesis is a common malady * * * * that is presents several varieties of form, etc." At another time[2] he "pointed out that the leading differences between rheumatic (arthritic) iritis and the iritis of secondary syphilis, are the following. The first is want of symmetry, rheumatic iritis very seldom, and syphilitic iritis almost always, affecting both eyes simultaneously, or with a very short interval; secondly recurrence was stated to be the rule in the rheumatic cases, the disease sometimes affecting the same eye repeatedly, and sometimes attacking first one and then the other, at intervals of months

[1] Ophthalmic Hospital Reports, Vols. VII and VIII.

[2] *British Medical Journal*, 1872, p. 288.

or years, while syphilitic iritis, seldom, if ever, recurs; thirdly, in rheumatic iritis no nodules of lymph are formed in the iris, whereas distinct growths of organized lymph are not uncommon in the iritis of syphilis—these nodules are, however, so frequently absent in cases of undoubtedly syphilitic iritis that Mr. Hutchinson regards them as of quite secondary importance for the purposes of diagnosis; fourthly, a narrow white line of chemosis at the margin of the cornea is frequently seen in rheumatic cases, and when present it aids the diagnosis, but its absence cannot be looked upon as negativing the arthritic nature of an attack of iritis."

But if we examine the 117 cases upon which Mr. Hutchinson bases his conclusion, we find every variety of present, or more commonly of past, articular inflammation or pain, as well as the most vague histories of so-called rheumatic or gouty forms in near relatives but only a few in which acute rheumatic fever may possibly have been the cause and some of these were probably gonorrheal.

Nettleship[3] following Hutchinson, studied etiology of 70 cases of iritis and describes 23 as arthritic due to some form of rheumatism or gout but rheumatic fever seems to have occurred in only one or two.

Hutchinson's view was generally adopted and is even now held by many ophthalmic practitioners. But it is evident that the classification of Hutchinson which embraced every form of arthritic disease including gonorrheal and gout is more likely to cover our ignorance than aid us in establishing the true causes of the disease.

Groenouw[4], in discussing acute articular rheumatism as the cause of metastatic choroiditis, states that he regards some of these cases as crypto-genetic sepsis. He divides metastatic ophthalmia into three classes: 1. puerperal, 2. surgical, 3. crypto-genetic. (The term crypto-genetic was first introduced by Leube in 1878 to embrace those cases of sepsis in which the primary focus is not discoverable). In a study of 167 cases, 77 belonged to the first, 60 to the second, and 30 to the third class. Groenouw basing his study on the 30 cases of crypto-genetic metastatic ophthalmia, found their ages ranging from ¾ of a year to 66 years, with an average at about 30; 57% were male. The ophthalmia developed between the first and eighteenth day of the disease. A large number of the cases were fatal. Endocarditis was frequently found and the articulations were often affected. Metastatic ophthalmia was at times the *only* sign of the disease; among 10 cases which recovered, this occurred five times. Some of the cases were so mild as to appear spontaneous. The micro-organisms found were staphylococci, streptococci and pneumococci.

Axenfeld[5] divides crypto-genetic pyemia into four classes; first, those cases decribed under the head of ulcerative endocarditis; secondly, those which run a course simulating acute articular rheumatism, being pyemia in which the articular affections are most prominent; thirdly, cases simulating typhoid, meningitis or miliary tuberculosis; and fourthly, those showing indefinite febrile symptoms with involvement of the eye. In a list of 27 cases, there are the following which simulated articular rheumatism:

Mooren, 1882, two cases, both binocular; joints involved; followed by death.

[3] *British Med. Journal*, Nov., 1876, Part II, p. 617.

[4] Groenouw, in *Graefe-Saemisch Handbuch*, Vol. XI, Part I, pp. 273, 504.

[5] *Archiv. f. Ophth.*, Vol. XL, Part III, p. 61.

Hirschberg, 1885, male child, aged 1½, both eyes, joints involved, ended in recovery of vision.

Sutphen, male, aged 39, both eyes involved, after four days recovery.

Axenfeld, male, aged 58, double ophthalmia began fourteen days after the disease. Patient died four days later.

The following case is to be classed as crypto-genetic metastic ophthalmia in which the septic fever greatly simulated rheumatic fever.

Nannie C., mulatto, aged about 25, married, who had always been in very good health, was attacked with fever in May, 1910, followed by severe pain and swelling of her left shoulder and accompanied by marked fever. She was attended at her home by Dr. A. Lee Ellis, through whose kindness I had the opportunity of observing the case. About the sixth day, the right eye became inflamed; the lid and conjunctiva swollen; and there was much pain in the head. I was asked to see her the fourth day after the eye symptoms had developed and found intense iritis with marked involvement of the ciliary body as was manifested by the postlenticular exudate. Atropia was ordered. During the next few days the exudate in the vitreous became more marked and the inflammatory symptoms then subsided, but it was found that there was neither light perception nor ophthalmoscopic reflex. Her temperature which had again fallen to normal, suddenly rose after a chill on the 9th of June, but there was no increase in the eye symptoms. On June 11th, an irregular shaped prominence was observed in the upper portion of the sclera on the nasal side of the insertion of the superior rectus. It appeared to contain pus and was apparently almost ready to break through at the point where the mass appeared yellow. The mass was opened and a serous fluid, but no pus escaped. A slide was prepared but no organisms were found. There was rapid subsequence of the inflammatory mass and the area subsequently became retracted. The eyeball gradually became phthisical and has given the patient no further trouble.

Dr. Ellis has furnished me with the following note:

"Her sickness began about the middle of May, and as I remember now she was taken in the beginning with a chill and I saw her soon afterwards. Her temperature for the first few days was not very high, running from 100° to 101°, but was very irregular, sometimes going to normal or thereabouts and then again up to 101° and 102°. The highest temperature that I have recorded was on May 27, on which day it was 103½°, although the day before that it was only 100.2° and the day afterwards it was 99.1°. This irregularity of temperature made me suspect that there was pus at some point, and in about two weeks, I found that the right shoulder was very tender, and later the eye symptoms began to develop. If I remember rightly, the first indication of the eye symptoms was a chill. The point of maximum tenderness was about the shoulder joint, but the shoulder joint itself was never involved; it was in the smaller bursae around the shoulder. Apparently the seat of greatest tenderness was under the deltoid muscle. This muscle was subsequently atrophied; all the muscles connected with the shoulder joint suffered atrophy and the one that was wasted next to the deltoid was the biceps.

I examined her shoulder carefully yesterday, April 17, 1911, and find that the

deltoid is in very much the same condition as at the time of her illness, but while the other muscles have not regained their size, they have, to a great degree, regained their strength. Physically she is in splendid condition; is heavier and feels better than she ever did in her life."

It is evident that the articular trouble was in the bursae around the shoulder joint and not in the joint itself.

A careful inquiry was made in this case to discover the cause of the infection. Dr. Ellis had known the patient for a number of years before her marriage, between three and four years ago, and since then; there had certainly never been evidence of lues or gonorrhea. She had never been pregnant. She had never had tonsillitis. Her heart and kidneys were perfectly healthy. There had been no recent infectious disease; no abscess or furuncle.

This case must therefore be regarded as one in which, with the ordinary methods of examination, we were unable to find the primary focus of infection and we must classify it as crypto-genetic.

THE MODERN TREATMENT OF TUBERCULOSIS.

BY

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The history of the treatment of tuberculosis is a chapter of medicine that is full of blind gropings, bitter disappointments, fatalism, riding of hobbies and therapeutic nihilism; in short it is a history of chaos in the fullest meaning of that word. But in much of this chaos there were golden grains of good, that, by indefatigable patience have been rescued by unbiased men, so that now we can fairly say, that we not only intelligently treat our tuberculosis cases, but also that the work and methods of those, who years ago realized a measure of success, are now appreciated at their proper value and today find their rightful place in the modern scheme of treatment of this disease. The work done by Churchill in 1843, in a slightly modified form plays a part in the treatment of today; and rightly so it should, for after all, his were the first achievements of importance in the battle against the "white plague." With the proving of the micro-organic etiology of some diseases by Pasteur and the discovery of the tubercle bacillus by Koch, the antiseptic theory of treatment of this disease was born, and this, crystallized into the creasote method was attended with its successes and its failures.

When the simultaneous discovery of the anti-diphtheritic serum by Roux and Behring startled the world, an ardent search for an anti-tuberculosis serum began and resulted in such products as that of Maragliano, Marmorek, etc., all of which gave some successes and many, many failures. The tuberculine treatment, coming as it did from the discoverer of the bacillus of the disease, stirred the world and led many, laymen and physicians, to believe that at last the specific remedy against this terrible disease had been found. They argued, surely such an eminent scientist cannot be wrong; but soon, along with the few successes reported, came also an avalanche of failures and bitter discussion and dissension rent the medical world. It is useless here to speak of the various modifications and supposed improvements of Koch's treatment that soon after its

announcement made their appearance; suffice it to say, that the tuberculine treatment was, by the mass of the profession, consigned to the already large junk heap of failures.

Climate had long been recognized as yielding good results, but like other methods of treatment, it was not properly understood. We sent our patients to the balmy south, thinking that it was the warm climate, where they would be less likely to take fresh colds, that that was responsible for their improvement. Everything was left to climate; that was to do it all. Now we know that it is the open air and the oxygen, and not the temperature that does the good in tuberculosis. For a time it was forced feeding that was the fad, and with some it became the keynote of treatment. In order to supply more than the needs of the body and the ravages of the disease, eggs, milk, cod liver oil, emulsions of different fats, etc., were given and often given far in excess of the capabilities of the patient's economy to assimilate the same. But enough; there was some good and some bad in each method and each method proved in itself to be inadequate. It was necessary carefully to sift out the good in each; to study and analyze the successes and failures of each, and by this process of eclecticism, little by little it became possible to formulate a plan of treatment, with an understanding of the indications and contra-indications based upon clinical experience and which are becoming more clearly defined and more firmly established. We may define the modern and most successful treatment of tuberculosis as a combined treatment of specific and general constitutional medication, under the most favorable climatic conditions obtainable for the individual case, and a diet as liberal as the particular patient can assimilate.

SPECIAL INDICATION.

This may be divided into Sera and Vaccines, each of which have different indications and contra-indications and therefore must not and cannot be considered as interchangeable.

Sera. Of these there are six; each somewhat differing from the other in their method of preparation.

Maragliano. This is prepared by injecting a mixture of some of the residue after filtering a culture of young virulent bacilli, mixed with an aqueous extract of virulent dead ones. This mixture is injected into horse, goat or heifer every six months in increasing doses. The serum so prepared may contain as high as 1000 antitoxic and 200 agglutinating units. The dose is from 1 to 2 cc.

Marmorek. This is the best known of the sera. The author of this serum believes that tuberculine is not the true toxin of the bacillus of Koch and that this substance is as it were only a preparatory toxin whose real action is to excite the bacillus to secrete the true poison. To his own satisfaction, if not to others, he has been able to prove this by devising a culture method differing from the usual classic ones. He uses a leuco-toxic blood serum, obtained from a calf; this he mixes with a bouillon of glycerinized liver. In this medium he has succeeded in growing, in 24 hours a primitive tubercle bacillus that is devoid of fatty or waxy envelope and will not take Ziehl's carbol-fuchsin stain. Marmorek, from statistics of over 10,000 cases, claims that he got cures or marked amelioration in 68%. The dose is from 1 to 10 cc. Its utility is chiefly in the acute and hyper-acute cases.

Lannelongue, Achard and Gaillard. This is prepared from the blood of asses or horses which have been injected with a toxin prepared by precipitation from the bacilli by acetic acid; this precipitate is extracted with hot water before injection. The results from this serum have been very inconstant. The dose is the same as the above.

Arloing. Cultures of bacilli are grown on potato and other differently modified bouillons, and then injected into sheep, ox or horse. Later these animals are inoculated with emulsions of dried and bruised bacilli and still later both methods are combined. By this means it has been possible to obtain a very energetic serum. It may here be stated that most of the sera are more anti-toxic than anti-bacteric.

Vallee. This author has sought to prepare a complete serum; one that would be both anti-toxic and anti-microbic. To this end he used germ toxins, unmodified in any way, either by heat or chemicals. He uses tubercle bacilli of feeble virulence, obtained from a horse; these he injects in increasing doses and in increasing virulence, until the animal withstands a highly virulent strain, in the dose of 0.02 cc. and then he proceeds to hypodermic or by intra-venous injection of a bouillon culture of very virulent human tubercle bacilli. One month after the animal has withstood the last step in the preparation, the serum is collected. Experiments with this serum show it to be possessed of high therapeutic value but it is still too early to warrant a definite estimate of this preparation.

Jousset. This is produced by immunizing a horse by the injections of a mixture of bacilli and their derivatives, of human origin but whose virulence is extinct.

In employing sera, we must ever have before our mind's eye, the danger of anaphylaxis, but this danger can be avoided by administering them by rectal injection. The happiest results of sera medication are in the very acute cases. A short time after the treatment is begun, the appetite improves as does also the assimilation; the patient feels better and puts on some flesh; the tachycardia lessens and the temperature comes down nearer to the normal. At first the expectoration is increased, but as it is more liquid, it is more easily expelled; later, say about fifteen days after the commencement of the treatment, there begins a distinct decrease; the dyspnea lessens, and the ausculatory signs are modified for the better. Hemoptysis is no contra-indication to the use of sera and it should be remembered that it is in just these cases where there is high fever with everything to indicate a virulent infection that is going to run a rapid course, that the sera will do the most good; that type of the disease that formerly was called hasty consumption against which we have heretofore been helpless; these are the cases that the sera enable us to modify. After we have succeeded in changing the complexion of the attack, it is well to institute a course of vaccine treatment, but this should not be too soon attempted; certainly not until the patient has been thoroughly built up by the serum treatment.

Vaccines or Tuberculines. Of these there are several at present used and we will give a brief description of them.

1. *Tuberculine ancient; Koch.* (*T. A.*) This only contains the exo-toxins of the bacilli. It is prepared by concentration over a water bath, to 1/10 its volume; then filtered. For this preparation the bacilli are grown in a veal bouillon containing 45% of glycerine, 1% of peptone and left for two months in the incubator, at a temperature of 37 C.

2. *Tuberculocidine of Klebs.* This is a toxic principle which has been precipitated from the tuberculine of Koch by alcohol; this is then dissolved in a mixture of alcohol, chloroform and benzine, dried at a temperature of 56 C. and the residue is mixed with carbolized glycerine and carefully filtered.

3. *Tuberculine, Institute Pasteur. Paris. For medical use.* This is the T. A. of Koch, precipitated by alcohol and this precipitate is then dissolved in a solution of 1 to 100.

4. *Tuberculine residual. Koch.* (*T. R.*) This contains all of the constituent substances of the bacilli; that is to say the endo-toxins. It is prepared from bacilli that have been dried for a long time; these are then triturated in an agate mortar, with a pestle of the same substance, then mixed with distilled water, centrifuged; the deposit in the centrifuge tube is then further treated in the same manner, namely by drying and re-trituration, until a complete solution is obtained, for portions of dead bacilli are very apt to cause abscesses at the site of the injection.

5. *Bacillary Emulsion Koch.* (*T. E.*) Contains the endo- and the exo-toxins and is a mixture of one part of pulverized tubercle bacilli in 100 parts of distilled water, and 100 parts of glycerine. One part of this mixture represents 0.005 of the active substance. For use it is mixed with an 0.08% soda solution.

6. *Tuberculine, Institute Pasteur. Lille.* (*C. L.*) This contains all of the secretory products of the bacilli; their protoplasm is extracted with glycerine, then precipitated with cold alcohol; after that precipitated with ether and the non-dialysable part is dissolved in artificial serum. It is ten times more powerful than T. A.

7. *Tuberculine of Vallee.* This preparation most closely approaches the total composition of the bacillus and therefore more completely acts against all of the evils of the tubercle bacilli. It has all of the exo- and endo-toxins, without these being subjected to heat or chemical action; for purification it is run through a Berkefeld filter. Biologically it is the most complete of all; whether clinically it will prove as ideal, it is still too early to say for it is of very recent date.

8. *Tuberculine of Beranek.* This is a mixture of extra and intracellular toxins; the first are obtained by the cultivation of the bacilli in a glycerinated veal bouillon, without peptones or neutralization. The endo-toxins are obtained by extracting the protoplasm of the germs with a 1% orthophosphoric acid solution. This preparation enjoys favor with many.

9. *Filtered bouillon of Denys.* This is a preparation of the exo-toxins, very like T. A. but without having been exposed to heat which the author believes may destroy some if not all of the vaccinating properties of tuberculine. It is first filtered through paper then through a Chamberland filter.

10. *Tuberculine of Jacobs.* This is so similar to the preceding that it does not merit a separate description.

These then are the principal tuberculines and we can classify them into three groups, viz.:

Group (A) containing only Exo-toxins.	1—T. A. of Koch. 2—Tuberculocidine of Klebs. 3—Tuberculine of Pasteur Institute. Paris. 4—Filtered bouillon of Denys. 5—Tuberculine of Jacobs.
Group (B) containing only Endo-toxins.	6—T. R. of Koch.
Group (C) Endo- and Exo-toxins.	7—T. E. of Koch. 8—Tuberculine Inst. Pasteur. Lille. 9—Tuberculine of Vallee. 10—Tuberculine of Beranek.

In concluding the consideration of the different vaccines, it might be well to quote the opinion of Prof. Renon, who says that the different actions of these various substances is more theoretical than real. Different men use different vaccines, not so much because they believe this or that one so much superior to any other, but simply because they have become accustomed to a particular one and are perfectly familiar with its action and so feel no need to use any other.

Results of Tuberculine Injections. In apyretic cases or where the temperature does not go above 100 F. even when the lesions are of long standing, under the influence of tuberculine injections, these have undergone marked changes for the better, yes, even perfect cures have been obtained; but it will lead to a better understanding if we study these in detail under separate headings.

Local reactions. By this we mean those that occur at the site of the injection. These reactions may vary from a simple erythema to a pseudo-phlegmonous induration, but

by the use of hot compresses, these usually promptly disappear.

General reactions. May be manifested by an elevation of temperature and pulse; slight gastric disturbances and some diminution of the appetite; there may even be some general malaise, with headache and slight insomnia. Marked general reactions are usually due to too large doses and must be taken as an indication to decrease these.

Indications. The chronic apyretic cases that do not run an evening temperature of over 99 or 100 F., these are the cases suitable for tuberculine treatment.

Contra-indications. The vaccines or tuberculines should never be used in cases that are having hemorrhages or high temperatures, cases that are evidently running a rapid or acute course. Such cases are made distinctly worse by the injection of tuberculines. In what was formerly known as the hasty form of the disease, sera should be used; it does not matter which one is used, and when such cases have been modified, then the good work of the sera may be completed by a course of tuberculine treatment.

Dose. The dose of tuberculine should always be a little short of one that produces a slightly marked reaction; this is the most effective method of action and in order to find this dose, we must begin with very minute ones, say 1/10,000 or even less, 1/20,000 of a milligramme and from that carefully work our way up until we get to a point where we get some reaction, but always remembering that this reaction must never be a marked one, or we shall do more harm than good. In the treatment of tuberculosis, there is one other thing that I deem it necessary to speak of, that is the secondary infections by streptococci and staphylococci. While most clinicians recognize the fact that these play an important part in the genesis of certain symptoms, I do not believe that these have received the therapeutic attention which they merit. These organisms are not directly affected by the tubercular sera or vaccines, but we have specific vaccines with which to cope against them. No doubt quite a few of the failures of specific medication can be ascribed to the failure to combat these secondary infections.

Thus, we have briefly sketched the specific therapeutics and we will now take up general constitutional treatment, leaving the question of drug or medicinal treatment to be considered last, but in closing this part of the subject let me say that the use of specific medication is by no means confined to the pulmonary form of this disease, but has also yielded good results, even perfect cures in other forms, for which the reader is referred to Lee's article in *Boston Medical and Surgical Journal* of May 7th, 1908.

GENERAL CONSTITUTIONAL TREATMENT.

Climate and Open Air. Much has been written about the value of particular places or regions, but after all the chief thing is plenty of *sunlight* and *fresh air.* Sunlight and fresh air are best obtained in the mountains or at the seashore and the value of both of these, to the tuberculous patient, is in proportion to the area of the patient's body that is exposed to the direct rays of the sun. The results obtained at Engadine, in Switzerland, by the solar cure are really astonishing. In pursuing such a cure, we must assiduously guard against sunburn, which, if at all severe, aside from the discomfort caused by such a burn is

always accompanied by some fever and further is liable to become the site of streptococcus or staphylococcus infection. An exposure of a few minutes at the most, in the beginning, until a good coat of tan has been developed, is the safest course to pursue. To make haste slowly, is of the utmost importance in the treatment of this disease. This exposure of the patient's body to the direct rays of the sun is not a summer-time treatment only, at the Swiss resort, but on the contrary is an all year round procedure. In America, we have not yet arrived at a point, where we have set aside places for such a form of solar treatment; neither in the mountains nor at the seashore, but the time will surely come, and soon, when the sufferer of the White Plague will be able to find such places close at hand; a place where patients can expose themselves to the curative influences of sunlight, with only a breech-clout about their loins, screened from the gaze of the curious and safe from the complaints and prosecution of the prudes.

In the Switzerland retreat for helio treatment, they have repeatedly had the gratification of seeing tuberculous joints get well, with a return of almost perfect functional activity and only a very slight deformity.

What shall we do for those innumerable cases of this disease who cannot go to the seashore or the country? Of cases so situated there will and must always be many, for the very conditions under which many live and must gain their living are potent predisposing factors and the class so situated forms a very large percentage of society. For these the roof areas of the tenements of our large cities should afford a means for fresh air at night and sunlight during the day. Even if these cases cannot spend their whole days there, it is something. While this cannot equal the mountains or the seashore, it is vastly superior to squalid, illy ventilated, dark sleeping rooms that are such a potent factor in the production and the death rate of this disease. I have often wondered why those who play such a pretentious part in the crusade against this disease, have not made more use of roof space, when this can be made to count for so much. I believe that the top floors of tenements, with roofs so constructed that tents can be put up there, will become the apartments where the families of our poorer patients, suffering from tuberculosis, will in the future live; when this plan is used, with all its possibilities and used to its fullest extent, then and not until then, will the death rate from this scourge decrease.

Diet. Some time ago superalimentation was the vogue; but we have come to the realization that the regime of that time was one too ample even for a healthy body to support for a long time, and how much more severe must have been the strain upon one debilitated by tuberculosis, which seems particularly to exert a bad influence on the digestive tract. To assimilate four quarts of milk, a lot of eggs, and what not else, is unreasonable and even if it is assimilated, it means a severe tax on the eliminative functions of the body. In the chronic form of tuberculosis, even if the kidneys are free from actual infection, their functions have suffered. If there is the slightest albuminuria, such a dietary may at any moment induce an intoxication of the most formidable character. Nor is urea retention the only thing to be feared. In a less spectacular way, but just as surely, even if insidious, may a loading of the system beyond its powers of elimination, with

uric acid forming foods, frustrate our aims. Uric acid is unfavorable to healing and healing of the tuberculous lesions is what we are after. From this it becomes clear that we must carefully supervise elimination and be guided by it in our feeding; never allowing the milk to clog the intestinal tract and by our urine examination be assured that there is no urea retention or failure of uric acid elimination. If we will guide ourselves by these things we will never detrimentally overfeed, which is quite as bad as underfeeding. It is not so much a matter of this or that kind of food as it is a matter of assimilation and elimination. Proper specific medication exerts a powerful influence for good on the digestive tract. I have seen a voracious appetite develop in a case treated with Maragliano's serum and that child ate and digested things that would shock dietetic sticklers but he did well and that is the main thing. If we take the appetite of the patient as a guide we will not go far wrong.

Drug or Medicinal Treatment. If under this heading, we were to make a list of all the drugs that at one time or another have enjoyed popularity in the treatment of this disease, it would contain nearly every drug in the materia medica and some that are not in it. Of such a long list, but very few have maintained a place in the present day treatment. Iron and bitter tonics, while always having a place, alone accomplish little; their choice is purely an individual matter of the attending physician. Iodine and its various combinations and derivatives has had its day and its champions and while it is still used some, the claims made for it, as a specific, will not bear critical analysis. It is a waste of time to consider any other drugs than those of real merit. Under this head creasote deserves consideration; pure or in its various combinations. Many in the profession, I am sorry to say, still believe that this drug acts as a direct antiseptic upon the tubercle bacillus and for that reason give it in large doses, doses so large that the poor sufferer reeks and by this odor is betrayed to his surroundings everywhere until he gets to hate himself for this smell. Such doses are not alone unnecessary but distinctly harmful. It would take a many times fatal dose of creasote to accomplish the destruction of the germs. The undeniable good that has been observed from the use of this drug is entirely due to its action as a gastro-intestinal antiseptic and to realize this action no heroic doses are necessary. In this way it aids in a better digestion and assimilation and so has a meritorious foundation for its use.

In 1860 Churchill published his remarkable observations on the use of the single hypophosphite salts. He definitely formulated the indications and contra-indications for each and emphasized the therapeutic value of the salts employed individually. For a long time his work was neglected, but it has recently been revived and recalcification and phosphorization treatment is being practised abroad with good results. No one can read Churchill's carefully recorded observations, without realizing that the calcium hypophosphite is indicated in a greater number of phthisical cases than any of the others and a study of his work is strongly to be recommended. Nor is the value of the combinations formed between phosphorus and calcium confined to tubercular cases; I know of no drug that I could more illy spare in the treatment of bronchial affection in general, than this. In the chronic winter coughs, which so

often prove the forerunner of tuberculosis, it is invaluable in my experience, but I always use it, singly, never combining two phosphites or hypophosphites in the same prescription. I am firmly convinced that an intelligent and more general use of these preparations would go a long way toward the prevention of tubercular cases. We all know how insidious at times is the beginning of tuberculosis, making it absolutely impossible to fix the time of invasion; in such cases there is a history of bad health with a little chronic bronchitis, but repeated physical and sputum examinations fail to reveal any tuberculous infection; then little by little the condition becomes aggravated and we find ourselves in the presence of a typical tuberculosis; we all know these cases only too well and meet them all too frequently; it is in just these kind of cases that the phospho-calcium compounds are of the utmost value.

In closing this article, let me say that we cannot hope to cure those advanced cases of tuberculosis. But in the present state of the treatment of this disease, we should never allow cases to reach such a stage, for today we not only have ample means for their prevention, but, during the earlier periods, for their clinical cure.

SURGICAL HINTS.

A peritonsillar abscess as a rule is more painful than serious. But one should not forget that patients have died of suffocation and that erosion of a vessel may take place in the wall of the cavity and cause death.—*Amer. Jour. of Surg.*

In cases of chronic suppurative disease of the middle ear, with perforation of the drum, when the discharge cannot be arrested by appropriate treatment, there is good reason to suspect tuberculosis as the cause.—*Int. Journal of Surg.*

A CASE OF CONGENITAL SYPHILIS IN AN INFANT TREATED BY THE ADMINISTRATION OF SALVARSAN TO THE MOTHER: RESULT UNSUCCESSFUL.

BY
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New York.

The case which is herewith reported, offers several features that are of unusual interest. It is still a mooted question, which time alone can decide, whether it is possible to effect a cure of a child born with syphilis, by administering salvarsan to the nursing mother. Cases have been reported by several observers, in which a beneficent effect has followed the injection of salvarsan in the mother. Perhaps the most interesting of these, and possibly the first case on record, is the oft-quoted case of Taege (*Münchner Medizinische Wochenschrift,* 1910, No. 33), in which an infant with marked syphilitic lesions, was apparently cured simply by nursing at the breasts of the mother, also syphilitic, who had received an injection of salvarsan (0.3 gm.), ten days after the birth of the child. Both mother and child were markedly benefited by the treatment. Duhot (same journal, No. 35) also reports a case with satisfactory result, and likewise Dobrowitsch (*Wiener klinische Wochenschrift,* No. 39, 1910).

It was thought at first that this salutary effect on the infant was due to the presence of arsenic in the mother's milk, but experiments made by Marinescu, Plaut, Meirowsky and Scholz, showed that the milk did not contain any arsenic at all, or at the most, but very minute traces, and consequently, not sufficient to have any effect on the child. Professor Ehrlich declared at the time that he believed the re-

sult to be due to the liberation of a large quantity of endotoxins, by the sudden destruction of the spirochetes in the mother, as a further result of which, antitoxins are developed, which exert the beneficent effect on the infant, through the maternal milk.

In the present case the result of the treatment was not a satisfactory one. Nevertheless, in view of the pathologist's findings, it presents features that are worthy of careful study and thought.

On March 21, 1911, I was invited by Dr. I. S. Hirsch, to confer with him in reference to a syphilitic infant in his service at the Jewish Maternity Hospital, New York. The history of the case was as follows:

Mrs. F. M., aged 25, Para II, was delivered of an apparently healthy male child at the hospital, on March 11, 1911. (First child was a still birth at eight months). This child when born, was a lusty infant, weighing 8½ pounds. Two days after birth a papular rash appeared on the trunk and extremities, which soon involved the face, the palms of the hands and the soles of the feet. Temperature 100.4° F. On the roof of the mouth, mucous patches appeared, and there were also present anal fissures and snuffles. On March 16th, blebs were observed on the soles of the feet and palms of the hands; paronychia also present. The baby nursed every two hours.

On March 22d, I saw the mother and child. The condition of the child is best shown in the accompanying illustrations, taken immediately before the mother was injected. The Wassermann reaction of both mother and child, on that day, was strongly positive, though the reaction of the mother, a few days previously was negative. It was agreed that the best results would be secured for mother and child, by the administration of the salvarsan to the mother, thereby obtaining through her an influence on the child as well, thus attaining a double benefit with one treatment.



Fig. 1. Baby M. Congenital syphilis. Aged 4 days. Showing lesions on head.

An intravenous injection of 0.5 gm. salvarsan, was administered to the mother early in the afternoon on March 22d. Shortly after the injection, the patient vomited once and felt the usual dryness in the throat. The temperature rose to 101.4° F. Two hours later the mother nursed the child and this was repeated twice during the evening. The baby nursed well each time.

Early in the morning of the next day the baby refused the breast and vomited a greenish fluid several times. Breast feeding was stopped and the baby was now fed by the dropper, but the vomiting still continued. At 6:30 a. m., the second day, the baby suddenly became cyanotic, almost black. Cupping was resorted to and oxygen administered. This gave temporary relief, but the cyanosis soon returned. Temperature ranged from 99° to 101.4° F. The cyanosis continued, and the child expired at 4:15 p. m., two days after the injection. At birth it weighed 8½ pounds; at the time of death, it weighed 6 7/16 pounds.



Fig. 2. Same case; showing lesions on feet, limbs and buttocks.

Autopsy: The autopsy was performed by Professor E. E. Smith, of Fordham University Medical College. His report is as follows:

"The body, including face, neck and extremities presents an erythematous rash.

which is more or less ham colored. The lungs present extensive hepatization; the heart muscle is pale, and pericardium is rough. The liver shows an extensive interstitial hepatitis; it does not contain arsenic. The kidneys show an extensive acute interstitial nephritis. Diagnosis: Syphilitic pneumonia, hepatitis and nephritis."

Dr. Smith also examined a sample of the mother's milk taken at the time of the baby's death. He found that arsenic was present to the extent of one part in ten million.

Undoubtedly the death of this child was due to congenital syphilis. It is hard to believe, or even to suppose, that the one ten-millionth part of arsenic found in the maternal milk, could have had any influence on the unfavorable outcome of this case. This is further made evident by the utter absence of arsenic in the liver. On the other hand, there were distinct lesions in the lungs, liver and kidneys, which could not in any event have been caused by the milk of the mother. We therefore must conclude that death was caused by congenital syphilis, which was uninfluenced by the treatment given to the mother. Unfortunately, the mother refused to submit to another blood test; we are consequently unable to say whether or not the treatment had any effect on her. She showed no clinical evidences of the disease at any time.

I desire to express my thanks to Professor Smith for his painstaking report, and to Dr. Hirsch and the members of the house staff of the hospital for their courteous cooperation.

105 East Nineteenth Street.

SURGICAL HINTS.

In diarrhea with bloody stools, do not overlook the possibility of rectal polypi being present.

THREE CASES OF INTEREST TO THE GENERAL PRACTITIONER.

BY

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New York.

I believe that the following three cases deserve to be reported. One of them because of the comparatively infrequent occurrence of the affection, the other two because of the definite results obtained from the drugs employed.

CASE I.—*Intermittent Hysterical Amaurosis.*—Froma K., seventeen years old, born in Russia; about one year in America; works at waists; menstruation began about one year ago; catamenia lasting about five days; seems to be normal in amount but is accompanied by some pain during the first day or two; father and mother living, and in ordinary health; family history contains no reference to tuberculosis or insanity. She has two sisters, both her seniors. One of these is now in ordinary, good health. The other sister, the oldest, who physically resembles the patient to a marked degree, was in good health until about eighteen months ago, since when she has suffered from a transitory attack of nervous depression, bordering on melancholy. But the family calamity that brought about this state of her mind is self-sufficient as a cause; I therefore am inclined to class family history as negative.

The patient herself is apparently in excellent health. As far as she remembers, she was never ill, until about two years ago, when she had an attack of fainting, brought about by accidental inhalation of coal gas. During the month of July, 1909, overheating caused several attacks of fainting. None of these attacks lasted very long.

About two months ago, entering her rooms, she was severely frightened; fainted immediately, and remained in bed ill the whole day, and for about a week after that she had a faint idea as if someone was following her. On Sunday, Feb. 6th, 1910, in the evening, on her way home, she was taken ill with severe abdominal cramps, fell, did not faint, and had to be

brought home. When in bed she felt dizzy and lost her sight for an unnoticed length of time. I first saw this patient on Monday, Feb. 7th. She suffered from marked abdominal pain and tenderness of maximum intensity over McBurney's point; pulse about 80; rectal temperature 99 F. She did not vomit, was slightly constipated. When describing her condition of the day before, she related that everything became dark before her eyes. I have paid but little attention to the disturbance of vision, and diagnosed the case as one of catarrhal appendicitis of moderate severity, and treated her accordingly. On the next day, her condition was about the same, but during my examination, abdominal palpation induced a severe attack of cramps, with a slight tendency to opisthotonos. When the colic subsided, she became totally blind in both eyes. The pupils were somewhat dilated. Her eyes, when she attempted to locate a person speaking to her, remained somewhat diverged. Pupils reacted poorly to light, and sunlight reflected from a mirror to her eyes, gave her no sensation of color, light or of pain, but was merely followed by a scarcely perceptible narrowing of the eyelids.

Later these attacks of cramps recurred with some regularity, every ten to twenty minutes, and when observed from a distance during an attack, the patient presented the aspect of a woman in labor. Each of the severer attacks was followed by an attack of amaurosis, which would in its turn pass away after having lasted from five to fifteen minutes. She had as many as twenty attacks in one day. An attack of cramps and blindness could be induced at will, by somewhat strong pressure on the tender area. On the 8th of February, the point of maximum tenderness had changed its position about two or three fingers higher in the direction of the pelvis of the kidney; taking up a fold of skin and underlying tissue, and lifting it up in a manner which was not painful at all on the left side, caused, on the right side, much more pain than did direct pressure over the tender region. It was also noticed that during these attacks, her left arm and leg were colder than the right, and not sensitive to touch.

On Feb. 11th, Dr. M. Lurie kindly consented to see the case with me, and examined her eyes. He found the right retina and optic nerve in a normal condition. (Two weeks later, Dr. Lurie examined her again at his office, and found normal eyesight, with a slight hypermetropy).

On Feb. 12th, Dr. Climenko was kind enough to see the case with me. There was very well marked anesthesia all over the left side of her body, anterior and posterior surfaces alike, vulva, lips, tongue and conjunctiva not excepted, the anesthesia of the body terminating sharply at the median line. The attacks after this occurred more rarely and less violently. On the 16th of April, I saw this patient again in my office. She told me that she did not see as clearly with her right eye as with her left. On testing, I found that blue and red seemed to her rather dark brown, when she looked through her right eye. For the following three weeks, she has had no attack, either of cramps or of amaurosis.

She was treated by rest and bromides.

Soon after this the patient left the city, and as I hear from her relatives, she still gets occasional attacks of cramps and blindness.

CASE II.—*Large Doses of Aconite in Endocarditis.*—Abe Sh., 15 years old. Family history as far as the vicious quaternity of diseases—syphilis, tuberculosis, cancer and insanity—are concerned—negative. Personal history: he had the usual eruptive diseases of childhood and it is my impression that he was subject to rheumatic endocarditis since his early childhood.

I have seen him two or three times during the last ten years and I am under the impression that my diagnosis was every time rheumatic endocarditis.

The present illness. The present illness began two weeks prior to my visit, which was on June 18th, 1910. I found that this attack commenced as an exacerbation of his endocarditis with symptoms of pneumonia.

Upon examination, I found a very well marked double mitral murmur, considerable dilation, apex beat in the axillary space, pulse rapid, slightly irregular, temperature 104.5 F, dullness and rales all over the left side; orthopnea; the spleen somewhat and the liver markedly enlarged.

During examination he could not utter two distinct syllables without a forced inspiratory effort; his lips were blue, his pulse 130-140, frequent extrasystole, venous pulsation in the neck plainly visible.

The pillows could not be lowered even for a moment from the sitting position.

I looked over the list of drugs he was getting. He was started on sodium salicylate, which he vomited; it was followed by aspirin which was also vomited. Finally he was given digitalis and later digalen without the least effect either on the pulse, fever, cardiac or pulmonary condition.

I have prescribed to the patient 1/20 gr. crystallized aconitine in a 3 oz. mixture of infusion of digitalis to be given a teaspoonful every two hours; the boy did not die that night, as it was dreaded and the next day his temperature was 103° F.

I doubled the dose of aconitine, i. e., I gave him about 1/500 gr. every hour, day and night, except for the sleeping hours, when he was not to be disturbed. But these sleeping hours, on account of his orthopnea were few.

The following day his temperature was 102° F., pulse 96-100; the dyspnea diminished. I attempted again aspirin. The patient vomited again and I therefore discontinued it and resumed the aconitine.

On the 25th his temperature was 100-101° F. On the 26th I discontinued the aconitine. On the 28th his temperature was 103° F. and I resumed the aconitine again, gradually increasing the frequency of the doses. In two days his temperature again was 101° F.

I discontinued the aconitine again: the temperature rose again.

On July 2d, Dr. R. Abrahams saw the case with me and he advised large doses of sodium salicylate or aspirin. I attempted again to administer these drugs but the stomach of the patient could not be made to retain them.

I resumed the aconitine again, gradually increasing the frequency of the dose until he was getting 1/400 gr. of the drug every hour, when his temperature came down to 100° F. and the pulse to 100.

Then the dose was given every two hours. On July 7th the anxious look of the patient commenced to disappear. The dyspnea became markedly less. He could count five in one breath, but still, the moment the drug discontinued the temperature and the rapidity of the pulse returned so that the drug had to be increased in frequency.

Because of the sticking pain in the left side, also because of the occasional attacks of diarrhea, I found it necessary on a few occasions to administer some morphine, which was given in broken doses, the total being not more than 1/8 gr. in twenty-four hours.

On July 19th his temperature was 99° F. The drug was gradually discontinued but the temperature and pulse remained low. On July 27th the boy was in his normal state.

I saw him again on August 9th, his temperature and pulse were in the same condition and I then discontinued the drugs permanently.

I saw him again on the 14th and discharged him, for no trace of his acute condition was left. Of course his chronic endocarditis remained as before.

About three months later, contrary to my injunction, the boy took, for him, the difficult voyage from his residence in East New York to my office. He looked the picture of health. His double murmur and his enlarged heart were there, yet, when not over-exercising the boy experienced no dyspnea, and with instructions, as to proper diet and hygiene, I sent him home.

In my judgment this boy was saved from imminent death by the persistent use of small doses of aconitine, guarded by digitalis.

Unfortunately there is a sad epilogue to this story. The boy grew careless and after having enjoyed comparative good health for over eight months, he contracted severe tonsilitis which was followed by acute rheumatism and exacerbation of his endocarditis; an acute nephritis set in and rapidly put out the young life. During this illness it was deemed dangerous to push the aconitine to any extent at all, as the boy was despondent and desperate, so that neither proper rest nor proper diet could be enforced.

CASE III.—*Singultus.*—Moses F. 60 years old, born in Austria, was there a trader in corn; is 22 years in America, all the time working at cloaks. His father and mother died of old age; his brothers and sisters are all living. I first saw this patient on March 19th, 1911. He had a few days before returned from Beth Israel Hospital, where he was operated on by Dr. Isaacs for a tumor on the right side of his tongue, and which, I am informed, was an epithelioma. I found him suffering from abdominal cramps. His liver was uniformly enlarged and there was marked pain and tenderness over the region of the gall-bladder. Pulse about 90. Rectal temperature 100.5° F.

I saw him again on the 31st. His condition was improved. His pain was gone, the tenderness was less marked. I saw him again on the 2d of April. His pain and tenderness disappeared and he considered himself well except for some slight hiccough. On the 4th the condition was the same. I saw him again on the 15th of April. He told me that he was feeling well till about two days before, when he felt feverish and experienced sticking pain in the right side of his chest, coughed and expectorated green sputum; his temperature on that occasion was 102° F. There was dullness at the angle of the right scapula, also at the middle of the axillary space.

Moist rales were abundant in the axilla and were heard more or less all over the right side. On the next day the hiccough became more marked; expectoration was difficult, more frequent and consisted of green purulent material that was so sticky as to provoke frequent vomiting. This condition continued till the 22d, his temperature ranging between 102-104° F. But the hiccough became the most important symptom, as it was continually growing more severe; ordinarily the attack would start as an ordinary single spasmodic contraction of the diaphragm. Sometimes however the contractions of the diaphragm would be multiple; contractions rapidly following one another without a full hiccough; this would exhaust the patient severely, leaving him with a rapid, weak pulse, in a cold perspiration and too weak to speak. These attacks occasionally lasted between two and four hours, bringing the patient to the verge of collapse. He was rapidly getting exhausted, pulse between 120-140, temperature between 102-104° F., bronchial respiration in the middle of the axilla, and marked tenderness at the xyphoid, and all along the right free border of the ribs. By that time the patient had had calomel, sodium, glycocholate, aspirin, hyoscyamus; he was made to sneeze; traction of the tongue was done, his abdomen was bandaged tightly; sinapisms were applied, he was frightened; he was given orthoform, bromides, chloral, opium, morphine, Carlsbad salts, and I believe a few more drugs, with the results that the hiccough continued severer than before, the exhaustion of the patient grew deeper and the aspect became very gloomy. On the 23rd of April I ordered for him veronal, gram 0.5 before retiring. He slept that night for the first time in a week. When he awoke his singultus reappeared but it was less in duration and in intensity. On the following night he was given again 7½ grains of veronal, again he slept all night. When he awoke we found that the singultus had disappeared permanently.

The patient made a rapid and uneventful recovery from what was probably a case of diaphragmatic pleurisy.

TRAUMATIC HYPNOTISM.

BY

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Member of the Society of Hypnotism of Paris.

Some years ago the writer made a study of a case, which he placed under the head of traumatic hynotism. The subject herself was a practising physician. The case is of special interest, owing to the competency of the subject to give an accurate account of her experience. She said to the writer:

"I was in a village cart coming up the street; the horse was spirited; a man tried to stop him from running away. The last thing I remember is calling to him to get out of the way. The following, of which

I was unconscious, has been told me by others: The cart struck another wagon and threw me into the air, and I came down in a heap, as if one were going to dive into the water, striking on my back and side, having the lines wound around my hands. I was pulled forward and up by the horse starting and dragged about 20 feet, when the lines slipped off my hands. I did not say anything at this moment. They picked me up for dead and carried me into a drug store. I then began to talk with them, looking deathly pale. They asked me if I was hurt. I answered, 'No, not at all, I am all right.' I would moan every now and then during the conversation. Quite a number of my friends came in, and I called one by name. Then I took off my bonnet and walked back where I could wash my face and hands. I moaned all the time I was doing this. They all thought I knew what I was doing. I walked out toward the hack, but told them I preferred to wait till the crowd got out of the way. On the way home my daughter got into the hack and I told her not to worry, that I was all right. I walked from the hack into the house. The doctor asked me to sit down, but I said I did not dare to, for I should lose control of myself. I asked to have a pin taken out of my dress. They gave me some whiskey. Then I suggested if it would not be a good idea to take a hot bath. My daughter asked me where the arnica was, and I told her in the office on the second shelf, which was correct.

Then they gave me the hot bath, and while the servant was pouring some water on my head I came to myself for the first time since calling to the man to get out of the way, but only for a few seconds, hearing only voices and feeling something strike my head, giving pain. I was then taken out of the bath and put into bed; I told them how to unfold the bed; then the doctor put a saturated cloth on the wounded part of my head; I told them to get towels and put them on the pillow to prevent soiling it. Then I began to be very delirious and talked incessantly about a railroad accident; my husband is constantly on the road, and I have worried sometimes about it. I repeated the same things over, saying the railroad switch was wrong, etc. This delirium lasted about an hour. The surgeon arrived, and on putting his finger between the scalp and skull I felt a flash of lightning and saw it. I said, 'I cannot stand this pain,' and then I became conscious for the first time of the injury on the back of my head. I was in agony; I could feel distinctly a grating when his finger was put under the scalp, and on pressure in one spot there was a bubbling sensation that seemed to shoot right over the brain. During this time I was conscious, but did not see anything. It is three weeks since the accident occurred, and I have had headache continually, this being a re-echo of the old pain. When I try to read my vision becomes double; my head feels double; the wounded side feels thick; I have had very unpleasant dreams since."

According to the description of the surgeon who attended the case the wound was on the right parietal protuberance over the third descending convolution; it was a contusion.

Inquiries of those who saw the accident and subsequent events confirm the statement of the patient. When picked up, her eyes were closed; then water was poured on her head, and she opened her eyes; she could not quite remember her husband's name; then she said she felt better and went and washed her face, etc., as already described.

It is interesting to note the states of consciousness: First, unconsciousness at the time of the accident; then water being poured on her head, patient passes into the hypnotic state; this lasts nearly an hour, during which she so conducts herself that her friends do not suspect but that she is herself. During this hypnotic state suggestibility may be said to have been normal, since she responded to everyone naturally. Her normal self seemed to control her hypnotic self fully; this latter self was the only one during the hour which was conscious.

VACCINE THERAPY IN GONORRHEA.[1]

BY

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Assistant Genito-Urinary Surgeon in the Long Island College Hospital.

Without entering upon a discussion of the factors and methods of immunity, it is common experience that in the presence of pathogenic organisms the mechanism of immunity may become sluggish, resulting in a chonicity of the disease.

The tenacious hold and disastrous effects upon the organism caused by the gonococcus urges the trial of any promising remedy. Since all theories of and claims for laboratory products depend for their confirmation upon clinical results, the following cases treated with gonococcus vaccines are reported.

The vaccines used were furnished by the Hoagland Laboratory through the courtesy of Drs. White, Avery and Garside. The vaccines were prepared from cultures freshly isolated from cases of acute gonorrhea. The isolations were made on glycerine-hydrocele agar, and the vaccines prepared from twenty-four hours cultures. In the sterilization and standardization of these products the technic of Wright was followed. Autogenous and polyvalent stock vaccines were prepared, the latter containing seven different strains.

The clinical material was found in the Genito-Urinary Department of the Long Island College Hospital and the Polhemus Clinic. Some of the cases were office patients in whom vaccines obtained from standard drug houses were used. The initial dosage varied from five to fifty millions, the intervals varying from three to ten days. The outer part of the thigh or lower abdominal wall are convenient spots for inoculation. Wright advises that the injection be made as near the site of infection as possible.

All cases exhibited local symptoms at the point of inoculation varying from a mild irritation for a few hours to a moderate infiltration, pain and redness for forty-eight hours. The systemic reaction ranged from a slight malaise for an afternoon to severe chill, temperature 103° F., and nausea sufficient to confine to bed for forty-eight hours.

The introduction of the vaccines into the body causes first a decrease in the resisting powers of the tissues, the so-called "negative phase," during which the patient exhibits malaise, a rise of temperature and at times increase of the local symtoms of the disease. This is followed by a period of improvement during which the patient feels better generally and locally, the so-called "positive phase." These clinical phenomena, and not the opsonic index, were used as a guide to size and frequency of dosage and in judging of results.

In six cases of acute gonorrhea, two dispensary, two hospital and two private, vaccines were the only remedies employed. Four cases were treated with stock vaccines and two with autogenous, the dosage ranging from ten to one hundred millions at three to five days' intervals. They were kept under close observation from six to ten weeks. In no case were the vaccines of benefit. One case (No. 14) of acute anterior and posterior urethritis of four weeks' duration; entered hospital with a marked Cowperitis. The gland was incised, pus evacuated. No improvement in urethritis after two weeks rest in bed, and discharge from incised gland continued. Inoculation of stock vaccine 15 millions;

[1]Read before the Kings County Medical Society, May 16th, 1911.

third day 50 millions. Fifth day 200 millions. Forty-eight hours after third inoculation pus discharge from Cowper's gland less. Steady improvement one week, then slight increase in pus discharge from gland and urethra. Vaccines, thirty millions, followed two days later by sixty millions. Wound closed and urethritis subsided three weeks after the first inoculation. The point may be fairly raised as to whether the vaccines or the rest in bed, was the healing agent, but I judged the vaccines to be of positive benefit.

Of seven chronic cases, all private, which I have been able to keep under observation for one year or more; in two the vaccines were of no value. In five cases which had resisted all treatment many months, the employment of vaccines in conjunction with the same measures that had been used unsuccessfully formerly, was followed by the disappearance of the disease in from twelve to twenty weeks. Four of these "cured" cases have been married over six months without signs of infection in themselves or their wives.

The most interesting series were those in which the gonococci and their toxins attacked the joints, tendon-sheaths and other connective and endothelial tissue, resulting in the so-called gonorrheal rheumatism. The dosage varied from twenty to three hundred millions, from three to ten days' intervals; four to twenty inoculations being given.

In seven out of ten cases the results were direct and of positive benefit, pain and swelling diminishing. Often twenty-four hours after the first inoculation there was distinct improvement. In three cases in which the condition was of more than three years duration the improvement, denoted by less pain and increased mobility in affected joints and tendons, did not appear until two or three courses of inoculations extending over four to eight weeks.

All cases reacted to the vaccines though two not until the third inoculation, a fact to be remembered if this is to be used as a method of diagnosis in obscure joint lesions, as has been suggested. The immunity following these inoculations is seemingly of short duration, so all foci of infection must be destroyed to obtain permanent relief. See Case 3.

These twenty-two cases do not comprise the total number treated but those only which could be controlled during treatment and kept under observation long enough afterwards to warrant drawing the following conclusions.

Stock vaccines seemingly as efficient as autogenous, though when these fail autogenous should be tried.

The stock vaccines of trustworthy drug houses are reliable.

Vaccines in acute gonorrhea of no value. In one sub-acute case (No. 14) seemingly of benefit.

In obstinate chronic cases they are of use in conjunction with other measures.

In the gonorrheal rheumatic conditions they are of positive worth, often the results are direct and brilliant, and no case of gonorrhea with that complication should be denied the early employment of this remedy.

CASE 1.—Mr. A., aged 27, first attack of gonorrhea two months ago; right knee joint involved. Large and painful swelling. Admitted to hospital Feb. 1st, 1910; usual remedies, including rest, Bier's bandages and blisters. Slight improvement, then stationary. March 4th, vaccines begun. Stock vaccine, single strain, seven inoculations at four to seven days' intervals. Dosage five to one hundred millions. Dura-

tion of treatment two months. After first injection slight fever and redness at site of injection for forty-eight hours. Following other injections, no reaction except slight headache, temperature 99.5. After fourth injection increase of tenderness in joint. After first inoculation, mobility increased and pain less. After fifth inoculation continued improvement. One week after last inoculation pain disappeared, mobility about two-thirds normal.

CASE 2.—G. L., aged 20. Gonorrhea three years ago, recovery without complications. Nov., 1909, second attack of gonorrhea complicated by epididymitis and rheumatic pain in left heel, right arm and shoulder. Admitted to L. I. C. Hospital, Feb. 28th, 1910. Slight discharge at meatus, gonococci found. Right shoulder painful, tender and swollen and motion limited to one-half. Single strain of bacterin; six inoculations; dosage five to sixty millions. Duration of treatment six weeks; no reaction. After first injection of five millions, slight increase of urethral discharge for forty-eight hours; after second inoculation of ten millions, no change in shoulder. After third injection of fifteen millions, shoulder free from pain and mobility two-thirds normal. After fifth injection shoulder movement normal and free from pain. During this treatment no malaise, slight increase of temperature. Seen June 6th, three months after treatment; cured.

CASE 3.—Mr. M., gonorrhea one year ago, recovery. March 4th, 1910, two days before, appearance of discharge at meatus; right knee and ankle swollen and painful. Admitted to L. I. C. Hospital April 8th, 1910. Meatus discharge slight. Gonococcus present. Right knee and ankle typically swollen and very painful. April 8th, 1910, twenty-five millions polyvalent stock vaccine injected. On day following profuse discharge from meatus; patient in bed; pain and swelling diminished in twenty-four hours. April 15th, free discharge of pus from meatus; fifty million bacteria injected. Two days later pus discharge at meatus ceased. Pain in joints increased for twenty-four hours and then almost disappeared. April 27th, right ankle swollen and left knee painful. One hundred millions bacteria injected. May 16th, one hundred millions repeated. During inoculations no constitutional symptoms, but note remarks as to discharge from meatus and increased tenderness of joints for a few hours after inoculations. June 16th, swelling in joints disappeared. General condition improved, very slight pain. No pus in urine. Discharged from hospital; June 18th been drinking much beer, exacerbation appeared in urethra and both knees. June 20th, two hundred millions polyvalent bacteria. June 30th the same. July 7th, no pain in joints anywhere for the last week, feels well generally. Urine still contains pus. October; drinking again in August; exacerbation of infection in joints which has proven very obstinate.

CASE 4.—Mr. C., private case, aged 30, gonorrhea three years ago; in bed twelve weeks, both knees and ankles involved. No trouble since, until March 10th, 1910. Now pain in both ankles, and heels swollen moderately. Nine inoculations polyvalent vaccines 20 to 40 millions, put in bed. Pain in joints much less 48 hours after injection. No constitutional reaction. Two days later second inoculation thirty millions, no reaction. Third inoculation, thirty-five millions, pain in heels disappeared. Fourth inoculation fifty millions (three weeks after first inoculation). Now feels well; swelling disappeared, no return of pain.

CASE 5.—Mr. W., aged 27, gonorrhea two years ago; rheumatic involvement in both knees and elbow at this time. Admitted to L. I. C. Hospital March 5th, 1910. Three weeks before this rheumatism had developed in both knees, which are swollen and tender. March 6th, first inoculation five millions, slight malaise, twenty-four hours, pain in joints increased after second dose, then subsided. March 10th, second inoculation, ten millions, slight malaise twenty-four hours, swelling and pain disappeared and patient declined to remain in hospital as mobility was complete and painless. Coincidence or result of vaccines?

CASE 6.—J. H., 29, gonorrhea four years ago, four subsequent attacks; rheumatism right knee, both hands and ankles, for past six weeks which has resisted all treatment; joints now swollen and tender. Urine clear, except for a few shreds; chronic prostatitis present. Polyvalent vac-

cines, seven injections extending over five weeks; dosage ranging from fifty to one hundred and twenty millions. After second injection, slight rise of temperature, some malaise after twenty-four hours, after which patient felt better generally, pain in joints decreased. After fifth injection reports all pain disappeared except on extreme motion. Swelling is gone. Six weeks after first injection, cured. In this case massage and dilatations continued for many weeks, to prevent recurrence, of which there has been none in twelve months.

CASE 7.—C. S., aged twenty-two, gonorrhea six years ago, epididymitis at this time, for the past year has had pain in knees and ankles, no swelling except in right ankle. Now complains of pain on eating in maxillary joints. Polyvalent vaccines five inoculations, treatment extending over eight weeks. First inoculation one hundred millions; slight local pain at site of injection forty-eight hours, no constitutional change. Five days later, second inoculation, one hundred millions. General malaise, temperature 102.5, headache, slight nausea, depression lasted forty-eight hours. Twelve days later, third inoculation, 100 millions, followed by same amount of general disturbance. Up to this period no change in general condition. One week later maxillary joints do not ache all the time, but he cannot yet chew comfortably. Two weeks following, third inoculation, fourth injection of one hundred millions bacteria, very slight constitutional disturbance. Two weeks later fifth inoculation one hundred millions, slight constitutional disturbance. Three months after first inoculation no pain in joints, ankles normal and freely movable; chews without pain. No recurrence in six months.

CASE 8.—O. R., aged 23, gonorrhea six years ago; one year later rheumatic pain in sacrum and feet; one year after these exacerbations of gonorrhea, severe pain and swelling in both knees. In bed two months; all routine remedies, some improvement. Three years ago exacerbation both knees, in bed nine weeks. Two years ago exacerbation both knees, in bed eight months. At this time had eight inoculations of gonorrheal serum (R. & T.). First seen by me October 10th, 1909. Now has severe pain in both heels, slight swelling both insteps. Pain and swelling increased if on feet more than two hours. Prostate contains pus. Massage and irrigations begun. After five months expression urine contains only a few leucocytes. No improvement in rheumatic condition. Vaccines begun. First five inoculations beginning with five millions, increasing to thirty millions (polyvalent); no change. Very slight constitutional reaction. Sixth inoculation 50 millions. Reports two days after this inoculation pain disappeared from feet, but right hip joint became very painful for three days. Slight systemic reaction. Now right foot better than ever before, left about the same. Three more inoculations of fifty millions each at intervals of eight days, after which reports stiffness in joints less than at any time during the past year (this was in July, 1909). Irregular treatment, massage and vaccines at intervals of from one to two months, continued until May, 1911. At this time, while the general condition much improved, pain persisted in the metatarsal joints of right and left foot and in heels. Put to bed. Blisters at points of pain. Vaccines, P. D. & Co., begun. May 11th, vaccines 100 millions, no reaction. May 15th, vaccines two hundred millions, no reaction. May 19th, two hundred millions, slight malaise, temperature increased two degrees. May 24th, vaccines three hundred millions; May 29th, three hundred millions; June 2nd, three hundred millions; June 9th, two hundred millions. After none of these doses was there any pronounced reaction. On June 16th, reports considerable improvement in feet. Pain less, no swelling. From the left fourth metatarsal bone an area of slight redness and pain persisted. Three inches from the site of this last inoculation made of one hundred millions bacteria. Two days later decided improvement at this point noted and inoculation of fifty millions within one inch of the joint made; one week later all pain has disappeared from both feet. Whether this will be permanent or not I am unable to say.

CASE 9.—G. O., aged 26, gonorrhea four years ago which became chronic. Had treatment for the last year in Polhemus Clinic. Massage and dilatations. Gleet persists. Urine now exhibits a few shreds in which a few intercellular gonococci are

found. Urine contains pus cells. Single strain bacteria used. Ten inoculations made, dosage ranging from five to sixty millions; interval from one to two weeks. Duration of treatment three months. During this treatment, prostatic massage and dilatations were continued, after fourth vaccination, reports himself as feeling better than ever. Gleet disappeared. After sixth vaccination, fifty millions, nausea, headache, hardly able to finish his day's work, but felt normal the next day. Three weeks following this vaccination, slight amount of gleet, vaccination begun again at two weeks' intervals. Three months after beginning treatment, prostate clear, chemically excited discharge negative; few fine shreds in ten hour urine; permission to marry. No sign of exacerbation one year after marriage.

CASE 10.—W. S., aged 30, gonorrhea three years ago which became chronic, now has infiltration along anterior urethra and pus in urine. Six inoculations of polyvalent, slight reactions after each inoculation. Increase of gleet for twenty-four hours after each inoculation. Six vaccinations given. Dosage ten to eighty millions. No aid. Condition remains the same after three months.

CASE 11.—Mr. M., gonorrhea five years ago. Second attack two years ago. Shreds persist for past year. Examination shows stricture bands to 28 French bougie, pus in expression urine. Massage and dilatation for three months. Condition about the same. Four vaccinations. First, ten millions; severe reaction, nausea and pain in upper abdomen; pulse 50, temperature 102. In bed for two days. Gleet increased for one day. Pain and redness at site of infection for three days, but no sign of pus infection here. These symptoms came on six hours after the inoculation. The second vaccination repeated ten days later, reaction much milder. One month after last inoculation of forty millions, shreds much finer, pus disappeared from expression urine.

CASE 12.—J. T., aged 24, chronic gonorrhea for past two years. Gonococci in secretion from anterior urethra and from prostate. Eight inoculations of polyvalent vaccines, dosage ranging from ten to eighty millions; intervals from seven to fourteen days. This case was under routine treatment for eight months, during which time frequent exacerbations took place without any discovered reason. Following each inoculation there was a slight malaise and local tenderness; the period of vaccination extended over three months. One month after last vaccination, urine clear, and expression urine free from pus. There has been no exacerbation in past six months though patient has had beer and coitus

CASE 13.—M. W., gonorrhea four years ago. Recovery in three months. Second attack gonorrhea May 1907, which became chronic. Prostatitis present and infiltration in anterior urethra. Routine treatment, massage and dilatation for one year, during which time six injections of gonococcus serum (R. & T.) were given. No benefit. Then patient was treated in Berlin for six months. Returned home in same condition. At the beginning of the second year of treatment, no local medication for one month, then put on vaccines beginning with five millions and increasing to one hundred millions at intervals of from seven to fourteen days. After third inoculation slight malaise and temperature 100.5. After fifth inoculation patient volunteered the information that he felt better than for a long time. Ten inoculations of polyvalent bacteria were made. One month after last injection, eight hour urine clear. Chemical irritation of anterior urethra smears negative for gonococci. Expression urine contains two or three leucocytes. Has indulged in beer and coitus with no sign of return of infection.

CASE 14.—Mr. G., aged 34, first attack of gonorrhea Jan. 1st, 1910. Admitted L. I. C. Hospital ten days later. Acute anterior and posterior urethritis. Gonococci found. Cowperitis present. Gland incised, pus evacuated. After two weeks of rest in bed and routine treatment, very little improvement. Inoculation single strain vaccine fifteen millions. No reaction. Two days later second inoculation thirty millions. Three days later third inoculation sixty millions; slight malaise, temperature increased two degrees. Slight nausea. Two days after third inoculation pus discharge from incised gland much less. This continued for one week, then slight increase in pus discharge from gland and reappearance of pus at meatus. Inoculation vac-

cines thirty millions, followed two days later by sixty millions. Three weeks after last vaccination wound closed and urethritis subsided. Shreds continued in urine, and pus in expressed secretion still present.

Eight other cases which might be quoted contain nothing different except in minor details from the above.

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OLD AGE AND NUCLEIN.

BY

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In our study of nuclein we found that when doses of a dram *per diem* were exceeded, there followed a tremendous fall in leucocytosis. Beginning with a leucocyte count of 4,000 per cubic centimeter, with rising doses of nuclein the number gradually rose to 11,000, the highest point. Then the dose was raised above one dram, when the leucocytes dropped at once to 3,000, or less than when the experiments commenced.

This observation seems probably of considerable importance. Metschnikoff asserts that one of the features of old age is the devouring of the nerve cells by the phagocytes; and Manouélian showed that in the destruction of nerve-cells that occurs in cases of hydrophobia, the contents of these cells are absorbed by the surrounding phagocytes. It would seem that in these conditions we have to deal with rebellious leucocytes, turning on the structures it is their function to defend. The administration of destructive doses of nuclein might prove an effective method of treating such cases. This recalls also an observation made by a friend, who was experimenting with nuclein in inoperable cancers. He found benefit *only* when his hypodermic dose was raised to four drams, or far more than the destructive dose. Cancer has been defined as "a rebellion of cells," and if this be taken not as figurative but true, it may be that we have in nuclein a remedy useful by reducing the number of the rebels materially.

Since whitening of the hair has been shown to be due to removal of the pigment by phagocytes, it may be taken as evidence of disaffection and mutiny among the leucocytic garrison, and the need for nucleinic reinforcement of the loyal forces. Should this hypothesis prove true, we might expect a return of power to the declining special senses from the use of this remedy, since this decline being an evidence of senility, it must also be induced by similar causes. The use of nuclein as part of our means for delaying the advance of age has therefore much *a priori* reason to commend it.

SURGICAL HINTS.

The healing of a mastoid wound is often hastened by fewer dressings and allowing Nature to do her part in the reparative process.

Many a distressing frontal headache may be relieved by reducing the hypertrophy of a middle turbinate, preferably by streaking with trichloracetic acid.—*Amer. Jour. of Surg.*

Repeated attacks of "hyperacidity" usually mean gastric or duodenal ulcer—gastric, if the pain is one or more after eating (Moynihan's "hunger pain"), hour or less after eating; duodenal if three hours and probably pyloric if about two hours after eating.—*Amer. Jour. of Surg.*

ETIOLOGY AND DIAGNOSIS.

Aviation Sickness.[1]—Each time that man withdraws himself from the average meteorological conditions of his habitual life, he suffers from morbid troubles which affect his divers organs. Organic and intellectual functions are more or less disturbed, and the ensemble of their symptoms constitute a special malady, a well-known type of which is that of mountain climbing.

The sickness of divers, that of ascensionists and aeronauts form more or less complex clinical syndroma due to various causes, but amongst those which seem to predominate are variations of atmospheric pressure.

As fast as the progress of science takes man from his primary habits and transports him with more or less *brusquerie* from the soil on which he was born, new maladies make their appearance, and the most recent in date concerns aviators.

MM. Crouchet and Moulinier made a very interesting communication to the Académie des Sciences on this new malady, as a result of their observations on several aviators who took part in the Bordeaux contest.

They first drew an analogy between the symptoms felt by the aviators and those characterizing the mountain climbing sickness, or *mal des montagnes*. However, in this latter, said Dr. Pater, who gave a *résumé* of the communication, there exist two kinds of distinct troubles: The first is due to altitude to which one attains; the second to the physical effort of the ascension if no special traction is employed.

The aeronauts suffer only from the first class of accidents, that is to say, those due to altitude.

But what are the different factors of these accidents? The first is *difference of pressure*. This may be considerable, as at present aviators attain 2,000 to 3,000 meters and more, the pressure falling for instance, from 760 millimeters to 591 millimeters (2,000 meters) and 521 millimeters (3,000 meters). There is also the difference of the *chemical composition* of the air, especially marked at 3,000 meters and over, there is again the difference in the *temperature*, which is but 45 F. at 3,000 meters where it may be 77 F. on the ground.

All these causes exist in balloon ascension, but with aviators two very special causes intervene to which MM. Crouchet and Moulinier attribute great importance: the *rapidity of the ascension* and still more that of the *descent*. The speed attained at the ascent is very great. Chavez in crossing the Alps rose from 880 to 2,010 meters in nineteen minutes; Morane, at Havre, attained to 2,600 meters in twenty-four minutes; Legagneux, at Pau, rose to 3,200 meters in an equally short time. But the rapidity of the descent is fantastic, from 2,000 to 3,000 meters, the aeroplane reaches the ground in from five to seven minutes. The biplane and monoplane differ a little as regards the speed of ascension, which is less for the former, but the descent is about the same for both.

The symptoms observed vary somewhat between the ascent and the descent, while other curious troubles are observed after coming to ground.

As regards the ascent, the *respiration* becomes shorter as soon as 1,500 meters have been reached, and the heart beats are multiplied (tachycardia). There is no nausea, but a kind of malaise difficult to define. The auditive phenomena are interesting; towards 1,000 meters a slight deafness is experienced, the noise of the motor seems muffled; a little higher up, noises in the ears commence. Vision is intact. Other sensations have been more or less remarked: *Headache, sensation of cold* above 2,000 meters, an *intense desire to urinate*, while the movements of the body are brusque and jerky.

The morbid phenomena observed in the descent differ from the preceding; a sensation of anguish like that of the sudden descent of a lift, violent palpitations, while the noises in the ears and the imperative desire to micturate increase. But that which characterizes above all the troubles of the descent is a certain *burning sensation* of the face and disagreeable smarting of the eyes with an *irresistible desire to sleep*, so much so that one young aviator was found asleep in a field without any idea how he came to ground.

After landing, the aviators are by no means free from all these troubles—far from it. The noises in the ears become so exaggerated that the aviator becomes almost deaf. The headache persists for hours, and vertigo is not rare, and frequently the aviator is overcome by the same desire to sleep, which he cannot resist.

After landing the respiration quickly returns to the normal, but *hypertension* is well marked and persists for some time.

Explanations of these divers phenomena are very variable, and belong frequently to the domain of hypothesis. The variations of temperature, the tension of the mind, the cold, the speed, etc., play here evident rôles. As to the troubles of circulation, the above authors attribute them to the considerable rapidity with which the human organism passes through the different conditions of atmospheric pressure.

[1] *Med. Press and Circular*, Aug. 23, 1911.

TREATMENT.

Treatment of Fracture of Patella.[1]—The treatment employed by Maclachlan is as follows: First, a mold is made of the sound knee by taking poroplastic material, 1½ feet long by 6 inches broad, which is softened in boiling water, and then firmly placed on the sound knee. In this way a perfect mold of

[1] J. T. Maclachlan, F. R. C. S., *British Med. Jour.*, July 29, 1911.

the knee-cap is taken; this is used as a splint for the fractured patella, the fragments being viced in the cap of the splint. A little cotton-wool is placed in the cap and sufficient to pad the rest of the splint, which extends above and below the knee-joint. Prior to fixing the splint the fragments are strapped into position by adhesive plaster, and longer strips are placed immediately above and below the patella, and drawn in contrary directions to pull the upper and lower fragments together. Lastly, a plaster-of-paris bandage is put over all. In three weeks the plaster-of-paris bandage is taken off. The splint is kept on for two weeks, passive exercises begun, and a knee-cap worn for two months, when it is discarded.

The Treatment of Psoriasis.[1]—Lippman says that before undertaking the treatment of psoriasis, it is well to bear in mind that it is a dermatosis, which is very persistent and purely local. That it has absolutely no relation to constitutional disorders and is of noninfectious origin. In fact, our etiology is entirely theoretical. We may have concomittant constitutional disturbances such as anemia, rheumatism, or gout, but these arise from other causes than psoriasis.

The treatment of psoriasis divides itself into three phases. First, the treatment of any constitutional disorder; second, the internal treatment; and, lastly, the local treatment.

The treatment which is directed toward the eradication of any constitutional disturbance, although not necessarily the exciting cause, may be of some benefit to the patient.

If the patient is in reduced health I try teaching him proper personal hygiene; the use of nutritious food, and the giving of a tonic as arsenic or iron in some palatable form; this I use in an attempt to restore him to as nearly normal physical health as I can, although not having any direct bearing on the local lesion, yet if the case is of long standing we can get the patient to become more willing to cooperate with us. In another class of cases, showing a rheumatic or gouty diathesis, I administer salicylates or alkalies in the hope of combating same. Again, if there is an excessive indulgence in alcohol, tobacco, or coffee the patient is cautioned to partake of them moderately.

The internal treatment, which is worth trying in chronic inflammatory psoriasis, consists of the administration of arsenic. It seems to me to curtail the time required to cure a case. At any rate no harm can be done the patient and some good may result. I prescribe arsenic, as the liquor potassii arsenitis, beginning by using three drop doses, three times daily, and increasing by one drop each day till twenty-four drops are taken daily, and continue in this dose until the patient begins to show the physiological effects as puffiness of eyelids, etc.

[1]W. E. Lippman, M. D., Brooklyn, *New York Med. Jour.*, Aug. 26, 1911.

The third and most effective remedy for local use is chrysarobin.

I direct the patient to take a warm bath every day for about twenty minutes, asking him to use plenty of soap; to this bath I direct the addition of ten ounces of sodium bicarbonate; after the bath the patient is told to use petrolatum, which he rubs all over his body to remove the scales and skin harshness. If all the scales are not removed I apply an ointment of salicylic acid, using fifteen grains to the ounce. This aids in removing the remaining scales. After all the scales are removed I direct the patient to apply the medicine given. This consists of two drachms of chrysarobin dissolved in one ounce of chloroform. The patient is told to apply this to each patch, and after it is dried, due to the evaporation of the chloroform, I have him fix it by applying a little collodion. This leaves a little crust of chrysarobin on the affected areas only, allows for the continued use of the drug, and does not give any chrysarobin dermatitis. The patient uses this two or three times daily until cure is completed.

Another method, which is recommended by Dreuw and seems to be very good, is as follows:

℞ Salicylic acid .....10.00 grammes
Chrysarobin.... } of each 20.00 grammes
Oil of betula... }
Green soap ... } of each 25.00 grammes
Petrolatum .... }

This is applied with a stiff brush to the affected areas every day for three days, after which the patient is told to take hot baths for three days. After each bath petrolatum is rubbed into the skin three times a day. A week is then allowed to pass, after which treatment is resumed. This I have tried and it has proved successful.

The Prevention and Treatment of Flat Foot.[1] If unaccustomed and prolonged standing and walking causes the feet to become more and more painful, says Roth, and if nothing be done, the arch of each foot will gradually sink, until on standing there will be none. To prevent this, and the necessity for ever wearing pads, wedges, irons, etc., the following directions should be carefully followed.

1. Wear shoes, not slippers, with soles 1/6 to ¼ in. in thickness; with broad heels 1 in. or less in height; with the inner side of the shoe, where the big toe lies, kept almost straight, so that the end of the shoe is opposite the big toe, and not opposite the second or third. There should be room for the other toes, too, but above all leave room for the big toe.

2. Stand on both feet with the toes slightly turned in and the heels slightly turned out. Never stand with the toes turned out, or on one foot to rest the other. Every now and then, raise the heels just clear of the ground, that is,

[1]P. B. Roth, M. D., *London Hosp. Gazette*, April, 1911.

stand on the toes sufficiently to bring all the muscles of the foot into action. Whenever the feet begin to ache, do this; for the arch cannot sink down when the muscles are acting. In addition, stand with the feet slightly turned over on the outer border.

3. Walk with the feet pointing straight forwards; never with the feet turned out. If the feet are hurting, walk all the time slightly on tip-toe, that is, with the heels just off the ground.

Following these directions will prevent flat foot; for if only the muscles are kept braced up, and the feet placed in a suitable position to best bear the weight of the body, the arch will not give. Flat foot is common because people stand in bad positions.

If the feet have already advanced to the stage of marked flatness, these measures, combined with exercises, will cure them. This does not apply unconditionally to the rare cases in which there is spasm of the peronei, nor to the advanced cases in which there is a severe bony deformity. The exercises, to be done preferably with the shoes off, every morning, are

1. Standing, alternately heels raising and heels lowering. To steady the body, one hand touches the mantelpiece or wall. The feet are kept slightly turned in, and slightly turned over on the outer border, all the time. The heels are slowly raised and lowered 100 times.

The Vaccine Treatment of Erysipelas.[1]—Sherman says that "the clinical picture of erysipelas is quite clear and cannot very well be mistaken for any other disease. Whether the difference of the character of the inflammation in erysipelas, where we have a diffused swelling, and other streptococcus invasions where the infective process runs along lymph channels, leaving red chains and involved lymphatic glands, is caused by an inherent difference in the germs, or simply because in the one case the connective tissue is involved, while in the other it follows the lymphatic channels, is not so easily determined.

In erysipelas we have intense and extensive inflammation, with comparatively infrequent pus formation. This is characteristic of streptococcus infections generally as compared with staphylococcus infections, and for this reason we should always be reluctant in using the knife in streptococcus invasions. Where the tissue succumbs to the germ activity it often takes on a distinct necrotic character, causing extensive sloughing, but not much pus.

Erysipelas being an acute infectious disease, often terminating fatally, should be gotten under control as soon as possible. For this purpose streptococcus vaccine, made from erysipelas strains, is unquestionally the most potent remedy at our command. In this connection the question of using autogenous vaccines naturally arises. To procure the streptococcus in erysipelas it is usually necessary to go beneath the skin, where the organism is found. This is most readily done by puncturing the skin with a narrow scalpel, then squeezing out blood and serum from the subcutaneous connective tissue. Cultures should be made on Loeffler's blood serum and incubated twenty-four hours. Almost invariably the staphylococcus albus will be found the predominating organism and often no streptococci are present. This is not because the staphylococcus is an important pathogenic factor, but as a consequence of the inflamed condition of the skin caused by the streptococcus, the staphylococcus, normally on the skin, multiplies very rapidly.

After twenty-four hours' growth, colonies of streptococci may readily be distinguished from the staphylococci, when subcultures should be made and again incubated for twenty-four hours. The resulting growth may then be used to make the vaccine by washing it off with normal salt solution, making a count of the suspension to determine the dosage and then sterilizing it at 140 degrees F. for thirty minutes in a water bath. Before using the vaccine it should be tested for sterility by inoculating culture tubes and incubating for two days. If growth should appear, the suspension should be resterilized and again tested for sterility.

Erysipelas being a rapidly progressing infectious disease, it can readily be seen that, if treatment is delayed until an autogenous vaccine can be made, the infection may have progressed so far that no treatment will be of any avail. Most of those who advise the use of autogenous vaccine in erysipelas recommend the use of stock vaccine until the autogenous can be made. From my experience I find that uniformly good results are obtained from stock vaccines, especially when used early in the course of the disease. I usually make my stock vaccine from cultures obtained in three or four cases of erysipelas and mixing them. The average dose that I have been employing is 20,000,000 for the adult and proportionally less for infants and children. Marked improvement with a reduction of temperature and a retarding of the inflammatory process is usually observed in twenty-four to thirty-six hours after the first inoculation. Where no material improvement takes place within one day after the first inoculation, the next dose should then be given. If the temperature comes down and then rises again, it is well to repeat the dose. In most cases two or three doses only are required. In extremely bad cases it is advisable to make inoculations twice a day until the case has been brought under control, and then at longer intervals.

My observations lead me to believe that cases of erysipelas treated with vaccine are not so liable to relapse as with other treatments. From over four years' experience with this method of treatment I cannot recall a case where there was a recurrence after a recovery. Not infrequently cases are met with where erysipelas takes on a subacute or chronic type. These cases are successfully treated by giving the vaccine at about five-day intervals."

[1]G. H. Sherman, M. D., Pittsburg, *Med. Council*, May, 1911.

HYGIENE AND DIETETICS.

Liberal Diet in Typhoid Fever.[1]—Liberal feeding of typhoid patients, says Miller, can scarcely be considered a recent innovation. Glancing back over the dietary treatment it may be noted that progressively the typhoid patient has received a more liberal diet. Until 1835 all fever patients were starved and restricted in the amount of fluids. When Graves at this time recommended giving water in which bread crumbs had been soaked, meat broths and jellies, the movement was considered revolutionary, and excited more comment than does the liberal diet of to-day. Graves and his followers were pleased with the results of feeding and gradually it became customary to feed in fevers. Later milk was added to the typhoid diet, this being a distinct advance, as on the diet recommended by Graves the patient received not more than 300 calories daily. When given two quarts of milk this was increased 1,300 calories. The value of an exclusive milk diet remained unchallenged until Peabody's paper in 1892. He questioned the desirability of the pure milk diet. Since this time there has been an increasing number of physicians, both in this country and in Europe, who have advocated liberal feeding. It is only necessary to mention Müller in Germany, Barr in England, Shattuck, Fitz, Kinnicutt and Le Fevre in America to see that the supporters of the liberal diet included the names of some of the illustrious men in medicine. Shattuck, in discussing Kinnicutt's paper in 1906, said: "For more than ten years I have been feeding my patients according to their digestive powers, rather than according to the name of the disease, avoiding such articles of diet as can leave an irritating residue." In all this earlier work, less attention was paid to the caloric value of the diet than to supplying the patient with a variety of safe foods. Bushuyere was first to pay especial attention to the food value of the typhoid diet, and to place his patients on approximately 2,000 calories daily. This was a big step in advance, and he was able to demonstrate that this quantity of food was well borne and the extreme emaciation was avoided. The recent work of Shaffer and Coleman, however, has been responsible for placing the dietary treatment of typhoids on a real scientific basis by determining the amount and variety of food necessary to protect the body tissues. They determined that very much larger amounts of food were necessary than had been anticipated. This increased waste in typhoid is due to the combined action of the fever and bacterial toxins. In order to fully protect the body tissues, 60 or 70 calories per kilo were needed. A man of 150 pounds with typhoid requires, in order to maintain his weight, close to 5,000 calories daily or double the amount necessary to maintain a healthy person of the same weight. When a patient received this amount of food it was possible to carry him through with very little loss of weight. In fact his weight when he became fever free was the same as before he was taken ill. It is true during the height of the fever there was some loss, but this was rapidly regained as the fever receded. Photographs taken of some of these patients in the beginning of convalescence are certainly in striking contrast to what we have been accustomed to observe with the milk diet. Our experience in the Cook County Hospital with the high caloric diet has impressed me with lack of pallor and emaciation in patients so treated as compared with those on an exclusive milk diet. It is true during the height of fever they may take only a moderate amount of nourishment, but the loss in weight was rapidly regained as the fever declined. It has also been shown that carbohydrates and fats are the best protectors of body proteids and about two-thirds of the food should be carbohydrates and not more than one-third fats. Only a moderate amount of proteids are essential, and this is included in the milk and eggs.

That Shaffer and Coleman were able to treat typhoid fever with little loss in weight is an extremely interesting observation, but it is questionable whether we should attempt to administer in every case the large amount of food necessary for this purpose. We should perhaps preferably attempt to give a sufficient amount of food to prevent excessive loss in weight. This can be accomplished in the average case by giving 3,000 calories daily.

In order to obtain a sufficient number of calories it is necessary to administer allowable foods with the high nutritional value. The most important of these are milk, cream, eggs and sugar. One quart of milk and a pint of good cream contain 1,600 calories. They may be given in the form of cream soups, with cereals as oatmeal, rice, cream of wheat, corn flakes, etc. The dry breakfast foods like corn flakes are especially desirable, as they take up a large amount of cream; or the patient may receive bread broken up finely in cream or cream toast. Creamed codfish picked up very fine often appeals to the patient's palate. The milk may be heated and arrowroot or cornstarch added. As much sugar (and milk sugar is preferable as it is not so sweet) should be added to all these foods as the patient will tolerate. A very palatable drink is equal parts of cream and vichy or seltzer. Cream and milk may be given in the form of chocolate or cocoa or with coffee. By using these various vehicles it is usually possible to administer a quart of milk and a pint of cream daily. Four or five eggs may be given daily. These may be taken raw with a little wine, grape juice or orange juice, in the form of eggnogs, soft boiled, poached or as custard or ice cream. If the patient is given clear soup an egg may be stirred in. Each egg has a caloric value of 70, giving a total for five eggs of 350 calories.

It is often difficult to have the patient take 8 ounces of sugar daily, especially if he has an aversion to sweets. The carbohydrates, however, offer the best protection for body protein and must be given freely. The patient may be allowed cereals, bread, baked potatoes

[1]Dr. J. I. Miller, *Ill. Med. Jour.*, Sept., 1911.

or any root vegetable in finely divided form, but the nutritional value of carbohydrates in this form is very low. It is impossible to give a sufficient number of calories unless we use sugar freely. Abundance of sugar may be added to cereals and cooked fruits. Simple desserts may serve as vehicles for sugar. Jellies and strained honey are rich in sugar. Sugar may be used freely in lemonade or the juice of grapefruit. Recently a young lady with typhoid craved candy and was given freely of the various forms of home-made candies, and as might be anticipated without any ill effects. By boiling for two minutes the water and sugar before adding the lemon juice, 4 ounces of milk sugar may be added to a glass of lemonade. The remaining 4 ounces may be easily taken in cereals, in jellies, cooked fruits or in the form of honey. Eight ounces of the sugar is equivalent to 1,000 calories. Occasionally sugar causes nausea, but the majority of patients will take an equivalent of 8 ounces of sugar daily by exercising ingenuity in the method of administering it.

The above diet gives us approximately 3,000 calories, milk and cream 1,600, eggs 350, sugar 1,000. The value of this diet is really in excess of 3,000 calories, as the cereals and other foods mentioned have considerable food value. It has been my practice to add 1½ ounces of fat crisp bacon daily. This has a high food value, 250 calories to the ounce, is relished by the patient, and when all the lean is removed and the bacon properly masticated, is harmless. As the bacon makes an excessive amount of fat if given in conjunction with the pint of cream, a less amount of cream may be given and the fat supplied in the form of bacon. One ounce of bacon is equivalent to 4 or 5 ounces of 20 per cent. cream.

With this amount of milk and eggs the patient receives sufficient proteid to supply his needs. Although meats in a finely divided form might be given they are liable to undergo putrefactive changes in the intestine with the formation of gas, and as carbohydrates are more essential for the protection of the body proteids, it is advisable to omit lean meats from the typhoid dietary.

In addition to the foods mentioned the patient may be given a great variety of soft foods as gelatin, tapioca, sago, wine jelly, soft puddings without raisins, baked or mashed potato, macaroni, caviar, etc. The majority of the prepared foods supposed to contain albumin are valueless, as are the various so-called meat juices and peptonoids. It is well to remember that the cheapest and most concentrated food is sugar. Alcohol is unnecessary, although there is no objection to its use in those accustomed to it.

The patient should receive his food at frequent intervals rather than in three meals daily. Feeding at two-hour intervals has been found the most satisfactory. From the above foods we can select a sufficient variety to tempt the appetite, provided the patient is not extremely ill. It is not necessary in this paper to outline the amount of food to be taken at each feeding. Knowing the amount necessary to be taken during the day, the physician or nurse can approximate it. In case of diarrhea it may be necessary to reduce the cream. However, diarrhea occurs so infrequently during the course of typhoid fever that there is little to be feared on this score.

GENERAL TOPICS.

A Simple Means of Removing Plaster of Paris.—In spite of the use of special instruments, the removal of apparatus containing plaster of paris is often troublesome, and in the case of a recent fracture may cause injury. Methods of softening the plaster by water, either alone or with the addition of salt, are rarely successful, as the apparatus becomes coated with a layer of grease which prevents their action. Stransky reports, in *Semaine Medicals*, he has obtained satisfactory results by moistening the line of section with vinegar applied on a tampon of wool. After a minute the plaster will be found completely softened so that it may be easily divided with a pocket knife or ordinary scissors—a procedure easy for the surgeon and painless for the patient. By this method a plaster case for a fracture of the femur, consisting of 80 turns of bandage, may be removed in about a minute and a half.

To Remove Adhesive Plaster.—A useful hint is given by Dr. Beardsley in the *Journal of the American Medical Association* on the removal of adhesive plaster. Everyone knows how painful this is to a patient who has had a strip of surgeon's plaster applied to a part which is hairy. Even when a preliminary shaving has been done the hairs have often grown again when the time comes for the plaster to be removed, and the process is an unpleasant one for both doctor and patient. Dr. Beardsley thinks very little of the usual methods of facilitating removal; turpentine is messy and only partly effective, benzine, alcohol, ether, and peroxide of hydrogen are also inefficient. He puts great reliance, however, in oil of wintergreen, which dissolves very rapidly and successfully the resinous adhesive ingredients of the ordinary plaster. It is advisable to use a small quantity only of the oil, for it quickly soaks through the fabric and diffuses itself along the material. He also especially alvocates, when very large areas of plaster are being dealt with, an ointment containing 10 per cent. of oil of wintergreen in adeps lanæ hydrosus; this is even more successful than the pure oil.

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The alleged disappointing results of the anti-tuberculosis crusade are susceptible of explanation which may make them far from disappointing and fully justify the time and money spent. It is being repeatedly pointed out that the death rate from consumption began to decline a generation or two before we knew what tuberculosis was, and the yearly declination has continued regularly ever since. The curve is fairly smooth and the modern crusade which may be said to have begun in 1884 has made no marked change in the rate of decline. It is even charged that modern methods too often cause a mere temporary arrest of the process and not a cure, the case eventually dying of the infection and appearing in the mortality tables of a later decade. Such prolongation of life is worth all the trouble, even if there is no cure. If a man does not die of the infection until he is 70 years old, there will not be much complaint of failure to cure him if he has been able to do a fair amount of work in the meantime. That is, the average age at death will give us far more information of the good done, than the actual number who die.

More consumptives are cured than formerly, and the mortality rate has diminished from this reason. The curve should have shown a greater decline since 1884, and the reason it has not is probably to be found in the fact that diagnosis is more exact. Formerly a great many cases of tuberculosis were not recognized and where vital statistics were collected, they were tabulated under different diagnoses. It is a parallel case to the alleged increase of appendicitis and typhoid after we learned how to recognize them. There is, then, ground for belief that the mortality rate has declined more rapidly as a result of the modern crusade. The original decline was due to modern sanitation, for it did not begin until the modern movement for better food, houses, water and sewage disposal. This is the real reason—better resistance—and the modern antituberculosis movement merely specializes on one disease and works on the same lines. We commend greater efforts and deplore this misinterpretation of statistics, for it might result in injury to a movement which is bound to be of the greatest benefit to mankind. Even an improved water supply reduces the mortality from tuberculosis, as proved by Hazen's great discovery, and the antituberculosis movement insists upon the abolition of every sanitary fault. It can not help reducing the morbidity and mortality even if it never cured a case.

The unrecognized insane in jails are said to be deplorably numerous. It is difficult to believe such general charges, for the abnormalities of these men are often mistaken for symptoms of mental disease.

One's ideas of right and wrong undergo a radical change when he loses respectability and self respect. The fear of losing caste is doubtless most powerful in keeping down the savage in us all—more powerful indeed than our moral sense. When we have lost caste, the restraints are gone, and we do and say what would be considered insane in the respectable. So it is difficult to believe that our prison physicians are so negligent as to fail to discover the insane among the convicts. Malingering no doubt is more or less prevalent and confinement alone disturbs the normal mental reactions. We hope our prison authorities will promptly refute the charge, for it is creating a false sentiment towards the vicious who might be cured of viciousness by gentler ways than kicking them.

The cause of pellagra is still unknown, but the facts seem to indicate a living parasite and not a poison produced by some saprophyte on spoiled corn or any other food. Sambon (*Jour. Trop. Med.*, Sept. 15, et seq., 1910) has the best of the argument so far and certainly all the facts are explained on his theory that a sand-fly (*simulium*), of one or several species, is the carrier of an unknown protozoon. The disease never appears except where and when this fly abounds, has no evident relation to food, and is communicable in the same sense as malaria and yellow fever. Sambon had previously formed a correct theory as to the cause of sleeping sickness by the same course of reasoning, and his views are therefore doubly entitled to respect. But, as in the case of King in malaria and Finlay in yellow fever, we must wait for proof by experiment. Pellagra is confined exclusively to those who work outdoors near the rapidly flowing small streams which are the habitat of the fly, and nowhere else. There are such places without pellagra of course, because the infecting agent is absent; as likewise there are many places now free of malaria though the *anopheles* is there. Town dwellers are never affected nor are country people who do not go near the streams, as the fly never enters a house. As for corn as a cause, the evidence shows that but few corn eaters are afflicted and that many cases had never eaten it. Cottonseed oil, the latest alleged cause is not known where the disease is most prevalent. Still, we must remember that only a year or two ago the facts as to beri-beri were equally well explained on the rival theories of an infection and a poison of spoiled rice, and that it turned out to be allied to scurvy—due to the deprivation of something in that part of rice removed by "polishing." Poor people are mostly affected by beri-beri because they cannot afford other foods which supply the needed ingredient, but the poor agricultural laborers are mostly the victims of pellagra because they are the chief ones exposed to the fly and they may be infected in spite of good feeding.

The natural home of the germ of pellagra should not be difficult to find, for the disease differs from the exanthems caused by pure parasites which do not live outside a human host. The protozoon is probably a tolerated guest or a symbiotic in some lower animal—a lizard, frog or worm —living near the streams and upon which the fly usually feeds—even fish have been suggested as the primary host. We bring the matter up because it is one more proof of the utmost necessity for more study of the parasites or symbiotic guests of animals living in or near water—a field shamefully neglected until quite recent

years, but one with promises of abundant harvests. The prospect of ending pellagra would alone warrant the great expense of huge aquariums for the research workers, not to speak of the cancer facts to be elicited. Then think of the possibility of learning something of leprosy which so commonly attacks those who handle raw fish—not those who eat cooked fish as Hutchinson thought—and who probably infect themselves by "picking the nose" and thus inoculating the bacilli lurking under the finger nails. The nasal septum generally has the first lesions—perhaps invariably. If so, the disease will never be eradicated and we might show that it is not contagious in the slightest degree, and so hard to contract from another case that isolation is not necessary if ordinary care is observed—views secretly held by many physicians who are afraid to antagonize the cowardly popular clamor to isolate for life people who may be harmless. So let us get to work on lower animals to clear up the puzzle of pellagra at once. There are grand possibilities of curing it whether it is dietetic like beri-beri, an infection like leprosy or a poisoning like alcoholism. We must remember that the vast majority of those who contract tuberculosis recover without ever knowing they were infected and that the same rule surely applies to leprosy and pellagra, as well as to diphtheria, typhoid and every other infection. Only the few lacking resistance succumb. Now let us cure these few by the same means the majority cure themselves, and we cannot find the means until we find the cause. Let us have aquariums for pathological research!

New York's problem of street cleaning seems destined to become different from that of any other city in the world, and we might as well discuss the future at once. Of course every city sweeps up all it can and removes the material beyond city limits or puts it where no nuisance is created, but they all depend upon rains to do the final and best cleaning. Some cities even wash the streets daily, and that is ideal if there is a water course handy and it is not unduly fouled thereby. In New York alone, does the material remain in the harbor and never reach the ocean. The matter of keeping the harbor clean, is becoming more and more urgent now that so many millions of people live on its shores, and we would not be at all surprised sometime to learn that a demand is made that the streets be kept so clean that there will be little left for the rain to wash into the harbor to foul it or even to fill up the channels. The cost is already so great that steps must be taken to prevent people throwing any rubbish, dirt or even paper into the streets. It is foolish to allow anyone to be as careless as a horse and then go around after him cleaning up. Indeed, it is not at all unlikely that the householder will be held responsible for the cleanliness of its surroundings—or even the owner himself held—if there is more than one tenant. Someone must be held, for we cannot go on as we are now. Prevention is infinitely cheaper than cure in all matters, so why not work it here?

The per capita cost of removal of wastes is very little if we compare it to what an isolated householder pays. We are always dazed by aggregates, and we forget that the cost of cleaning up after each of four million people is far less than if they were scattered in small groups. It is the same principle which makes us balk at the enormous cost of the future sewers soon to be demanded to carry our liquid

wastes under the harbor to distant fields for disposal, but the cost for each person will not be anywhere near that in some small villages at present. So don't let us worry over this cost, but give a thought to the far greater cost in losses of health, life and commerce if present conditions continue. One thing is certain, the harbor is to be barred as a slop can, manure heap or cesspool. Garbage disposal plants are now so perfect that they can be operated at our very doors without the slightest odor or other offense, and that question is already settled; but why we continue the present more expensive plans is a mystery which Albany may explain. Future improvements will doubtless render it possible to consume everything combustible—street sweepings and all—and use the slag for building purposes. When this comes, the per capita cost will be too small to worry a miser.

The ultimate disposal of New York's sewage might as well be discussed at once for it is a problem almost as great as that of removing it from the city limits. One thing is certain, it must be taken away in sewers under the harbor—the distance it must be piped depending upon its final disposition, but our success in pumping other fluids such as coal-oil for long distances, shows that we need have no hesitation over mere length of sewer. The sole question is the location of the outlet and what is to become of the fluid. That it may be utilized with profit goes without saying, and there is no doubt that there are plenty of lands on which it can be used and which are sadly in need of such irrigation. What is more likely is some discovery whereby the valuable ingredients of sewage can be precipitated and recovered without using the fluid for irrigation. There have been much more wonderful utilizations of by-products formerly thrown away, and we can count on this one. No matter what we determine upon in the end, the sewers will be needed, so why not study up the matter and plan at once. Manhattan island must be cleaned and kept clean, and so must the harbor.

Quick Lunch Dyspepsias.— It has been frequently commented upon by foreign visitors to our shores, that Americans are a nation of dyspeptics, and unfortunately this indictment is in many instances only too true. This prevalence of digestive disorders is equally attributable to our habit of rapid eating and our addiction to sweets, pastries and the like, as compared with the much simpler diet of the average European. Just as Americans work too strenuously and play to strenuously, they are apt to eat too strenuously.

This habit of rapid eating is particularly noticeable in the business sections of our larger cities, during the luncheon hours. In these places the so-called quick lunches abound which often might be more properly termed "dyspepsia breeders." Seated upon a high stool or arm chair, the customer proceeds, anaconda-like, to bolt his food in the shortest space of time possible. What is the consequence? The food insufficiently masticated, and imperfectly moistened with the salivary fluid, enters the stomach poorly prepared for digestion.

Constant repetition of this act leads to overtaxation of the digestive apparatus with resulting atony both of the motor and secretory functions, and thus is initiated a train of dyspeptic disorders, the outcome of which may be far reaching in effect.

Europeans take things more leisurely. More time is devoted to dining, more to

pleasant conversation which during a meal is in itself both a stimulus and a preventive of too rapid eating. For it must not be forgotten that digestion, while largely a mechanical and chemical act, is greatly influenced by the psychic state. It is sufficient to cite the well-known effect of mental disturbances, grief, unpleasant news, fright—not only upon a previously keen appetite, but upon the whole digestive process. Hence agreeable conversation, the diversion of the mind from business cares, etc., for the time being, is a real aid to digestion. Unfortunately too many people engaged in business life, eat not because they are actually hungry at mid-day, but go through the act in a perfunctory manner as a matter of custom, and therefore try to get through with it as quickly as possible. The adage "Let good digestion wait on appetite" seems to be entirely unknown to them.

As has been demonstrated by physiological experiments, the mere sight and smell of savory viands excites what has been called "the appetite juice," this taking place before the beginning of the gastric secretion which follows the ingestion of food. In these quick lunch establishments, however, the prevailing idea seems to be to cater to please the eye rather than to furnish appetizing and wholesome nourishment.

The ice water habit is another American peculiarity which is at least a contributory factor in the causation of dyspepsia. An amusing little story, which teaches a distinct moral, was recently related to us by a gentleman who, though American born, had passed most of his life abroad. On his return to his native country he stopped for a time at one of the leading hotels of New York, and was particularly impressed by the ever-present pitcher of ice water to which he had long been a stranger. In spite of his remonstrances, the ice water was always forthcoming, and so he determined to give the attending waiter an actual demonstration of his wishes. Said he, "You have again brought me hot rolls and ice water, and to impress upon you emphatically what I want in the future, you will now observe that I take one of these very hot rolls and dip it in the ice-water. My object in this is to teach you hereafter that I want my rolls colder and the water warmer."

Everyone who has travelled in Europe cannot have failed to notice that all drinks are as a rule served much warmer than in this country. When this is not the case, as for instance in Munich, where beer is said to be served much cooler than in other German cities, stomach tubes and stomach specialists, according to a correspondent of the *Detroit Medical Journal*, abound. There is good reason to believe that copious draughts of ice cold fluids, especially at meals, must exert a detrimental influence upon digestion, and that large amounts of iced tea, coffee, and milk drank at the lunch counters during the summer months in conjunction with illy prepared and indigestible foods, hastily consumed, form a combination that is responsible for many a case of dyspepsia that comes under our care.

The "Scrofulous" State.—Although the term, scrofula, is rarely met nowadays in American medical literature, it is still frequently encountered in the writings of European authors. Like Banquo's ghost, it will not down. However much, from a pathological standpoint, we may be inclined to regard the so-called scrofulous manifestations as identical with tuberculosis, there

is a clinical difference which to some minds is sufficiently marked to justify a distinction.

Scrofulous children in many instances escape serious tuberculous involvement in after life, even though their tissues may be more susceptible to the onslaught of the tubercle bacillus than those of healthy individuals. The older writers present graphic pictures of what they termed the scrofulous diathesis, which was held responsible for a host of clinical manifestations. As depicted by them, such children were prone to suffer particularly from inflammations of the mucous membranes, skin and lymphatic glands. The older authors possessed a power of description, which, however faulty it may be in the light of present pathological teachings, leaves an impression which is not soon forgotten. The scrofulous child, as described by them, frequently suffered from attacks of conjunctivitis, not readily amenable to treatment and apt to develop into a chronic state with red and granular eyelids. They were liable also to nasal catarrhs of an obstinate character. Their skin and scalp were often the seat of rebellious eczemas with purulent exudates and crusts. Associated with these conditions there was often present enlargement of the lymphatic glands, particularly of the neck, with a tendency to breaking down and the formation of disfiguring scars. These little patients were thought to be especially liable to derangements of the digestive organs, to diarrheas, and imperfect assimilation, leading to marasmus or faulty physical development.

We of the present day may smile at what we may consider the vagaries, based upon ignorance, of these old time clinicians. We may say, and with justice, that owing to their lack of knowledge of modern pathology, they were greatly handicapped in interpreting the phenomena they encountered and assigning them to their actual causes. The question may well be asked, however, whether, in this bacteriological era, we are not attributing too much significance to the germ and too little to the soil which is necessary for its development. Might it not be advantageous to retain the designation, scrofula, and apply it to those individuals who manifest a lowered vital resistance of their tissues, a special vulnerability so to speak, which renders them particularly susceptible to bacterial invasion and tuberculous processes. A child having this tendency will react differently to an irritation or trauma than will a healthy one, this being due to the lower degree of vitality of its tissues. A slight blow or fall upon an exposed joint is often sufficient to set up an inflammatory reaction which is slow in subsiding or may develop into a tuberculous arthritis. An irritation of the mucous membrane of the eye may lead to an obstinate form of conjunctivitis; a cold to a protracted and offensive nasal catarrh; an irritation of the skin to intractable eczematous eruptions; and so on.

Nothing that is said herein is intended to convey the idea that scrofula should serve as a cloak for diagnostic ignorance or inaccuracy. It would be ridiculous for anyone to make such a diagnosis without a thorough examination to eliminate every other possible cause. But after all is said and done, it still seems to us that there is a certain well-defined class of cases to which the old clinical designation of scrofula may well be applied, even though we may be able to only dimly fathom its true nature.

The evils of fee division are so patent that they need little comment. In certain communities they have been growing

so rapidly, however, that the local medical organizations have had to consider the whole subject with the object of solving a problem that is becoming serious in the extreme. It is easy to understand the development of the practise of dividing fees. The difficult part is to find any excuse for it. With the overproduction of medical men during the past twenty years, and the gradual shrinkage in physician's incomes, the struggle for business has been getting keener and keener. The growth of specialism has been a prominent factor in the situation and with the growing custom of the general practitioner to send his eye cases to the eye specialist, his skin cases to the dermatologist, his female patients to the gynecologist, his surgical cases to the surgeon, and so on, it is not to be wondered at that sooner or later the general practitioner saw his income dwindling so fast that he became panic-stricken. With bills for every day expenses presenting themselves with the same regularity, but with one-half or one-third the income to meet them, the situation rapidly became acute. What more natural move on the part of the general practitioner than to seek some personal gain from the specialists he was patronizing? He found the specialist in many instances ready to meet him more than half-way, for competition was constantly increasing. Thus a goodly number of physicians began the reprehensible practise of soliciting a commission for each patient sent to a specialist, or a definite portion of the fee received. As the matter has progressed many specialists have openly vied with each other by offering even as much as one-half of their fees! To a great many the whole affair has doubtless appeared as nothing but a simple business proposition. In all fairness therefore to many who have accepted or given commissions for patients referred by or to them we are ready to admit that they may have seen only the business side of the question. When we remember how extensively the profession has been recruited from young men who previous to graduation were engaged in active business pursuits, there can be still less surprise that the transaction has been regarded as merely legitimate business enterprise. But looked on from professional standpoints and in the light of the special relation which a physician bears to every patient who consults him, the practise of medical commissions or division of fees is absolutely indefensible. The instant a physician allows the question of personal gain to enter into his recommendations in a patient's behalf, just that instant he becomes false to the fundamental principles of professional medicine. The patient may not lose anything, his interests may not suffer at all, but the possibility that any other consideration than the patient's needs may temper his physician's advice immediately surrounds it with doubt, fears and uncertainty. It is agreed that confidence and belief in a physician's judgment and advice are all important, for without them his influence is gone. These can only exist as long as a patient feels certain that his physician's judgment and advice are wholly and absolutely free from any limitation or restraint. By allowing the factor of self interest to come first and jeopardize a relation that is so essential to medical success, the physician is not only endangering his own welfare but is sacrificing that which makes the practise of medicine a profession—a calling—instead of a business or commercial enterprise. Another element enters the situation, moreover, for the pa-

tient usually knows nothing about the commission or consideration which his doctor gets from the specialist. Since the transaction is kept hidden and secret, deceit and dishonesty characterize the affair and still further jeopardize the relations that rightly exist between physician and patient. No matter how the proceeding is viewed, therefore, it cannot be squared with right and honesty. The division of fees, the giving or accepting of commissions, or any other method to the same end is not only unequivocally wrong but thoroughly degrading. Unless this evil is sought out at once and promptly eradicated the harm that will be done to honest medical practise will be immeasurable. It is a type of graft, and since graft injures everything and every one it touches it cannot be destroyed too soon, nor too completely.

Fee dividing has by no means been confined to the impecunious or lowly members of the profession. That the evil has been fastening its tentacles on some of the leading physicians and surgeons of the land has been well known for some time. Of especial significance is the recent discussion of the subject by the Erie County Medical Society, and still more recently the resolutions passed by the New York Academy of Medicine. When a body whose membership is as carefully chosen as this last named organization finds it necessary to condemn an evil openly and notify its members that evidence of its practice will lead to expulsion, there can be little doubt that the situation has become serious. Within the past two months we have had offered to us by an investigator who has been studying the medical commission evil, a mass of sworn evidence that was astounding. The affidavits, something like eighty all told, covered actual occurrences in Chicago, New York City, Buffalo, St. Louis, Philadelphia and one or two other cities. The names of the surgeons who have secretly been giving commissions or a portion of their fees will shock the profession, if they are ever published. It is inconceivable how men who have posed as leaders in every upward movement for the betterment of the profession, could stoop to practices so reprehensible and stultifying.

Although strong pressure was brought to bear on us to print the evidence submitted, the specious argument being that publicity was the only effective way of overcoming the evil, we declined to lend our pages for the presentation of material that must necessarily prove so destructive to not a few reputations. Possibly some other publication may think otherwise, and deem it proper to expose the evil-doers. Frankly we feel that nothing is to be gained by serving evidence of scandal and wrong-doing to our readers, except possibly a little notoriety, and we do not aspire to further our journalistic progress by scandal-mongering. Such a course is contrary to our aims and policies for it is essentially destructive—and nothing else. We believe there is a better way, a constructive course which consists of creating so strong a sentiment against the practise that no physician with an iota of self respect will be a party to it in any way, shape or fashion. Once let it be thoroughly understood that fee splitting or the giving or taking of commissions means professional ostracization, and no man who prizes his position *within* the profession will care to endanger it by a practise that will leave him so little self respect.



DEATH'S CHARGER!

The widening sphere of medicine has been repeatedly mentioned in these columns, and it is a great satisfaction to notice in other journals an increasing number of articles on this vital matter. A short while ago when prevention was an unknown science, our duties were wholly therapeutic and therefore individualistic. Civic matters rarely occupied our minds and physicians were never in any public service—indeed they were but a degree above barbers and other valets attending to the persons of employers. But times have changed and public opinion has caused the enactment of laws compelling every one of us to do certain things to protect society against the infections we find in our work. We obey these laws, though often at considerable personal risk, for the sick man himself and his family still believe that we are in honor bound to serve his interests solely even to the extent of concealing his condition to the jeopardy of the public. As time goes on it is becoming more and more dangerous to accede to the individual and the physician who will deliberately allow a yellow fever case, for instance, to spread infection is liable to wake up in prison. That is, medical matters are quickly becoming social affairs, like tuberculosis, and require organized efforts for prevention and cure. Our isolation is ended—we are all public servants. Our master—society—now demands knowledge in such language as it can understand, and it is getting the facts in an increasing volume of popular lectures, articles and books.

Lay interference in medical matters is the new danger brought about by the widening sphere of medicine. Instead of spreading out with the new duties we are prone to remain in the strictly orthodox center and allow the laity to take them up. The outer fringe is therefore the place where we find all kinds of vagaries fostered by the clergy, women, and quacks. This is most unfortunate but it is remediable and we are the ones to remedy it. To a certain extent the clergy has always claimed to have divine powers to cure the sick and even raise the dead, and we must expect to have them dabbling in medical matters as long as there are clergy, but we can lessen the harm even if we cannot end it. Similarly the enormous new field of municipal and state medicine is being cultivated by engineers and other laymen without proper medical knowledge. Architects still design public buildings with improper, inadequate or excessive provisions for light, heat and air, and we let them construct hospitals without all modern necessities in the way of cold air and rarefied or compressed air. We must assert ourselves and move out to this outer fringe of new ground covered by our advancing frontier. We can do it without losing caste, and we must do it for we are a department of social service with duties no layman can perform.

New York City as a future medical center is now occupying the attention it should have received twenty years ago, but we are much inclined to believe that the present organizers are bewildered by the quantity of clinical material. London has had superior facilities for a very long time yet astonishingly few great discoveries are made there. Big ideas are of slow growth in a quiet isolated environment where there are few distractions to consecutive thinking, and as a fact great medical advances are generally made in some quiet retreat of a laboratory in a little European town. Then that place becomes a shrine crowded with students whose very presence is a distraction and no more thoughts have a chance

to grow by accretions. Large numbers of patients actually prevent the detailed study of each one so necessary for good diagnosis and therapy. The false ideas brought back by the sick from crowded European health resorts have been the scandal of medicine. Our danger then is the liability to turn the student loose in a crowd of patients instead of making him get the most good out of a few. Many a great diagnostician owes his ability to the very fact that in his youth he had so few cases that he could study each properly. So the small college still has its firm advocates, and must be copied in the present movement to coordinate our huge hospitals with the teaching institutions. That is, we must utilize our enormous clinical wealth for teaching and depend upon the isolated thinker for new ideas. Nevertheless, unless we are careful we will make as poor use of it as London has done and students will shun us as they do that really great medical center.

Tropical medicine in New York has long been seriously neglected as far as research is concerned, but the defect is about to be remedied so that we can utilize the human material which our commerce brings from every nook and corner of the world. Yet in this too, London has failed though it has had its splendid advantages for a longer time. Curiously enough in this case we need more quantity, that is, we must have cases of one disease all the time and not of many diseases part of the time. Proper research is impossible unless we can see cases every or any day in the year, so London depends on commissions going to the cases abroad, reserving the cases coming to London mostly for teaching purposes. Each city is a gateway of the growing commerce of an enormous population, and will furnish permanent teaching facilities for those who contemplate going to hot countries for practice or research. So, let each improve its opportunities better than it has in the past.

The large birth-rate in Japan is evidently giving some concern to statesmen, and the facts should be studied by those well-meaning Americans who are much concerned over the dire results of race suicide. Ex-President Eliot of Harvard has joined forces with Ex-President Roosevelt, and is quoted as saying that eight is the normal number of children, for there will be six to grow up, if we estimate a twenty-five percent mortality from unavoidable accidents. Our population would then be trebled every thirty years or so, and in two centuries would amount to 65 billions! As the feeding of such a crowd is utterly impossible, it merely means that they will starve unless "expended" in war. Mr. Melville E. Stone of the Associated Press, in a notable address to the Geographical Society quotes a Japanese statesman to the effect that prior to the invasion of western culture the Japanese produced two million babies annually but most of them died and the population remained fixed. Thanks to modern sanitation, they now live, and the problem of feeding them is now worrisome. The islands always were jammed full anyhow, and their history is a long wearisome succession of famines in spite of intensive cultivation of every inch of ground. They are feverishly at work building up industries to make money to import food, but still there is unspeakable distress and the surplus tends to stream out in search of food, instead of dying of starvation as in the old days. Yet there are famines still as in 1904 during

the war. No wonder they cry for land like the ancient Germans and Huns, and no wonder it is easy to raise armies, and no wonder they will fight for markets like the equally prolific Germans say they too will do. Were it not for these floods of babies, there would not be such a demand for "dreadnaughts," nor the men to sail them. So let us have more babies and still more babies as food for gunpowder. The race for armaments depends on the race for population, and one cannot be reduced unless the other is. Think of these things a bit, you people who dread race suicide.

Typhoid and latitude are related if we can believe the most recent statistics, for they seem to show that the disease is worst in the southern cities where the temperature favors the growth of the organisms in milk or other foods and thus makes the "carrier" more of a menace. South of the 41° of latitude the rates are large, north of it small. This may explain why the rates of northern European cities are all much lower than American. London at 51.5° has less than a fourth of Washington's mortality, and so has Paris at 49°. From Vienna at 48° of latitude to Stockholm at 60°, the rates are all from one-fifth to one-tenth of New York's at 41°. In other words it may not be possible to reduce the disease to the level of continental European cities, which often have just as bad sanitation as we, and yet are inclined to point to their typhoid rates rather superciliously as evidence of sanitary righteousness not found in barbarous America. Nevertheless, we should not be fatalists but the facts should stimulate us to renewed efforts, and when we do get our rates down we can then boast that we do it in spite of being 10° to 30° nearer the equator. Virginians should not be discouraged at the recent revelations of their state sanitary officer as to the deplorable rural conditions which caused such a scandal at the time of the Jamestown exposition, and which now threaten to keep the navy from Hampton Roads in summer and fall, but should thank Heaven in the possession of brave and skillful advisors who point out the sore spots in spite of the denials of a few misguided Norfolk physicians a few years ago. It should be as safe to spend a vacation in rural Virginia as in New Hampshire—and it will in time, but not by denying there is any danger.

The cartoon as a means of emphasizing important facts in public medicine seems to have a definite place and value. At the last meeting of the American Medical Association a considerable number of cartoons by well known artists were exhibited and we understand these excited much favorable comment. The latitude and license which the cartoonist has, or at least takes, enable him to bring out salient points with a force that is often more sledge-hammer-like in its power to attract attention and drive home a truth, than all the words or arguments in the world. We have been exceedingly fortunate in securing a series of six cartoons drawn by one of New York's well-known artists and illustrators, Mr. R. A. Weed. The subjects are so pertinent and the drawings are so well executed that we know our readers cannot fail to enjoy them. Accordingly beginning with this issue we shall present a cartoon every month until the series is completed. The cartoons not only give ample evidence of Mr. Weed's talents, but he has conveyed a thought in each one that tells volumes. We count ourselves lucky in being able to furnish our readers with a series of drawings by an artist of Mr. Weed's standing and ability, to say nothing of the actual worth of each individual cartoon and its happy capacity to "speak for itself."

ORIGINAL ARTICLES.

INFANTILE PARALYSIS; DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS.[1]

BY

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Infantile paralysis is a transmissible disease, and its occurrence in sporadic or epidemic form cannot be prevented if undiagnosed cases are present in a community. The points in diagnosis will be simply taken and stated. I wish only to bring to your mind that any case you see during the present season may be a case of epidemic poliomyelitis. I shall speak only of those points observable at a bedside examination, for I know you will avail yourselves with great promptness of the unexampled opportunities New York City laboratories afford for a confirmatory examination of spinal fluid or blood, or the injection of a susceptible animal, when confronted by a suspicious case.

Infantile paralysis is the chameleon of children's diseases. It is the chameleon of acute, transmissible, epidemic diseases, whose mortality rate climbs high when it extends to and attacks adult males.

Diagnosis:—Its protean form is manifest in a list of thirty common diseases with which it has been often confused during the present pandemic. The most frequent of the mistaken diagnoses, made by an unsuspecting physician when first confronted by this disease, are:—

a. Measles—on account of the skin rash.
b. Rheumatism—on account of the joint pains.
c. Tuberculosis of hip—if fixation from pain is present.
d. Cerebro-spinal meningitis.
e. Ptomaine poisoning—when sudden, forcible, repeated vomiting occurs.
f. Dentition—if teething is synchronous.
g. Lock-jaw—case occurring within six weeks of the 4th of July.
h. Eclampsia—if case is a pregnant woman.

You will observe that typhoid fever, la grippe and autointoxication have not been mentioned, yet they also are among the fairly frequent mistaken diagnoses.

We have all read carefully the report of 800 cases in New York City compiled by the New York Committee; would it not be well to hear from other communities of the appearance of poliomyelitis in fearful guise in their midst, and the urgent need of early diagnosis and isolation to prevent its further devastation?

Medin[1] of Stockholm wrote:

"Previous to 1887 I had not thought that infantile paralysis could present itself under the form of a true epidemic, and I was much surprised then, at that time, when I found myself in the face of an incontestable epidemic * * * * * in Stockholm. It is a great pity that I had not taken warning before.

* * * * * * * * * * *

It was not alone the number of cases * * * * * * * which struck me, that which astonished me most was the malignant character of a number of cases. In some cases of a fulminating character the children succumbed during the acute stage of the disease. In the epidemic it is especially the children in perfect health that have been attacked."

Dr. G. W. McIntyre[2] of Minnesota, after the epidemic in that state of 1,100 cases, in 1909, wrote:

"In any disease which is sufficiently serious to cause death or permanent disability within two to five days after its inception, it is apparent that treatment, to prevent such consequences must be promptly instituted. Therefore, in every disease of that character it is absolutely necessary that an early and correct diagnosis should

[1]Presented by request to the Woman's Medical Association of New York City at the New York Academy of Medicine, April 19th, 1911.

be made. *Poliomyelitis is such a disease.* (The italics are ours). Several years ago it made its appearance in the Eastern states, and has gradually worked its way westward, adding materially to the permanent population of graveyards, and leaving beside an army of cripples to mark its trail. * * * * * * * * * * * * * * * Late in the season of 1909 the disease made its appearance in Minnesota. Having noted its approach, we were not wholly unprepared * * * * * * The subject of early diagnosis had received our especial attention * * * * * * yet, notwithstanding our zeal, the first cases which developed were not, for a time, recognized as poliomyelitis. Attention appears to have been focussed more particularly on the PARALYSIS * * * * * * * * * * regarded as the most important sign. It is not so, however. If there is one thing that is important for a physician to do, that thing is for the physician to make a correct diagnosis before the paralysis occurs, and then use his utmost endeavors to prevent it. Paralysis is more the nature of a sequelae than a symptom. It is not of much use in diagnosis because when it appears the damage has already been done."

Dr. McClanahan[3] of Omaha, Nebraska, writing of the epidemic in that state in 1909 (one thousand cases):

"My personal experience with patients coming to my office leads me to believe that there are many cases of paralysis of which the attending physician has no knowledge. * * * * * * * *

This complication (Bulbar paralysis) was to me the important lesson of our epidemic. It was my sad privilege to witness the death of one of these cases. From the first symptom indicating respiratory failure to the fatal issue was only seven hours. Several physicians told me they had been greatly shocked and surprised to have a case terminate fatally in which but a few hours before they had given a favorable prognosis."

Dr. Anderson[4] of Stromsburg, Nebraska, writing of this epidemic:

"We at first had difficulty agreeing to an undoubted diagnosis because of the misleading descriptions of this disease in our text-books * * * * * * * * * * to this may be added our inexperience with the disease."

The states of Washington, California, and South Carolina have been visited by epidemics, and sent out highly informative bulletins to their citizens. The South Carolina Bulletin,[5] which is a great credit to their Board of Health, says:

"The diagnosis is rarely made before the paralysis occurs, nor is the possibility of the presence of the disease so often remembered as would seem advisable."

As further evidence of our great responsibility in making an early and correct diagnosis in these cases we will quote only one other authority, Dr. Emmett Holt,[6] who has written:

"Fatal cases of the sporadic form are not very rare, but often, I think, wrongly diagnosed."

The wrong diagnosis of a case that would have eventuated fatally is of no importance to the victim; the overlooking of a paresis or paralysis in a cradled babe has often occurred; abortive cases so-called, are often unrecognized, but every case of this disease which is incorrectly diagnosed and not isolated, becomes a possible source of infection to an immediate and remote circle. It is impractical at this time to enter into a discussion of how this transmission takes place, but one such instance is worth our attention: A woman during the epidemic in Prussia, visited the house where there was a sick child. The child vomited on her dress. The woman returned home. The child subsequently developed a paralysis. Nine days following the visit the woman's three children became ill, and each child became paralyzed.

When I came to New York City I was frequently told by physicians that no cases in the New York epidemic had been traced to a possible infection from a preceding

case, but on attending the great daily clinic of these cases at the Hospital for Deformities and Joint Diseases, I found a few questions would usually elicit a clear history of exposure. One such history follows:

Sara W., schoolgirl, 9 years of age. May, 1910, visited a playmate who was ill in bed and paralyzed. Sara was reproved by her sister, who was present, for eating candy which was on the bed of the sick girl, and subsequently by her mother for the same reason. The second day succeeding this visit Sara became acutely ill, and "stiff all over." She was paralyzed from the hips downward.

To return directly to the subject of the diagnosis of this disease—the diagnostic point of first value is:

1. Presence of epidemic. Poliomyelitis is now pandemic in all parts of the United States.

During the premonitory stage of this disease which I consider corresponds to and is identical with the period of incubation the symptoms are those of meningeal irritation, and will be evidenced by:

2. Irritability, peevishness, or abnormal excitability.

3. Spinal rigidity (slight).

4. Motor incoordination, slight, evidenced by a stumble or fall, and implying the over-excitation of motor neurons.

The spinal rigidity can be demonstrated if the patient sits up in bed with the legs extended. If the head is then pushed gently forward the child will complain that it hurts. A gentle rotation will cause resistance and pain. These methods should be undertaken with the utmost gentleness, and in many cases the rigidity is apparent from inspection; if retraction is not visible there is at least a strained appearance to carriage or posture of head.

"One strong, well-developed six-year-old girl in climbing a fence suddenly fell because one or both limbs gave way. She rose and continued to walk about, and some hours later in walking down the stairs, fell and rolled several steps without injuring herself. The following day she developed the acute symptoms and became seriously paralyzed." *Anderson.*

I consider this apparent incoordination of so much importance, that, taken with the presence of infantile paralysis in the community, and the history of a fall or even stumbling in a previously active child, if there is a concurrent slight rise in temperature and an increased pulse rate, I would feel justified in a tentative diagnosis of epidemic poliomyelitis, and at once isolate child and attendant.

With this peevishness and incoordination, there is often present a fine tremor, and muscular twitchings. The face is flushed with a mask of white, and the chest, abdomen and back on close inspection show a rubiform or finely petechial rash. In a number of my own cases in Wisconsin, epistaxis had occurred, a fact I have not seen chronicled by other observers.

The skin rash, previously mentioned, may be multiform in character, and frequently confirms, in the mother's eyes her own diagnosis of measles. It is most often overlooked. It may vary from the finest scarlatinal type, a mere blush, to purpuric blotches. The papular and vesicular form observed in six consecutive cases, by Dr. Brown and reported in the *Dominion Medical Monthly,* I have not personally observed.

Like the other acute exanthemata the onset is accompanied by vomiting, which may be prolonged and projectile in character.

Occipital headache is severe. Pain, and tenderness on motion or pressure, may extend all along the spine. The backache

may be excruciating. A man of fifty, just before the paralysis of both legs occurred, said:

"I have had backaches before in my life, but *never anything like this!*"

A child will often say its "neck aches." Some degree of cervical rigidity is present. This rigidity may extend to the whole spine, with or without opisthotonos.

"Stiff as a log from head to heels!" was reported of a boy of twelve years of age, by Dr. Johan Mattheson of Eau Claire.

Prostration is marked, and in the so-called abortive cases may be the only noticeable symptom.

The temperature is elevated, ranging from 100° to 103° in mild cases, to 106-7° in fulminating cases. Extremely high temperatures doubtless indicate an involvement of the heat centers in the medulla. Dr. G. H. Fellman of Milwaukee reported a temperature of 108.2-110° (rectal) in an 18 months babe, with left facial paralysis, strabismus of left eye and paralysis of all extremities with inability to hold up head.

An accelerated pulse rate is among the earliest symptoms. The pulse usually reaches the highest point during the stage of excitation, dropping rapidly after paralysis supervenes. In a little patient of my own, Evelyn E., 6½ years, the pulse ranged from 160 to 180 for 48 hours; the third morning after onset the right leg was paralyzed and the left paretic, while the pulse rate had lowered to 120 beats; it remained about 120 for ten days, then lowered gradually to 80 beats per minute.

The diagnostic symptoms and signs of onset of poliomyelitis then are, in the order given:

1. Irritability.
2. Incoordination.
3. Prostration.
4. Retraction of head.
5. Spastic condition of spine.
6. Occipital headache.
7. Backache.
8. Rising temperature.
9. Accelerated pulse rate.

I wish to limit these points in diagnosis to the least possible number, and will say once more, that with the presence of epidemic poliomyelitis in the community, the history of peevishness, with muscular incoordination, together with occipital pain, and limitation of motion of any part of vertebral column, warrants the tentative diagnosis of infantile paralysis, and allows the attending physician a possible twelve, twenty-four or thirty-six hours, in which to avert or modify the succeeding destructive lesions in the motor area.

A lumbar puncture[7] made at this time by one skilled in the technique, may confirm the diagnosis, by demonstrating a slight opalescence or milkiness in the spinal fluid withdrawn. When this opalescence is present, the paralysis, if it occurs, will ensue shortly.

There are many symptoms and signs of importance in the diagnosis and prognosis of the case, which have not been touched on.

The Digestive Tract as a whole.—Vomiting is a constant early symptom. It is sometimes repeated. It is sometimes projectile in character. When projectile, it is probably central in origin, and there is bulbar or cortical involvement. In two cases reported to me by the courtesy of a Wisconsin physician it was stated that the vomitus was projected with such force, it stained respectively the walls and ceiling of the rooms.

The tongue, at first a brilliant scarlet, and spotted, becomes heavily coated with sordes.

The bowels are profoundly constipated, to obstipation. The physician, who attempts himself to rectify this condition, will be convinced he is dealing with an atony of the bowel that approaches paresis. Diarrhea is not a common feature of the onset of infantile paralysis. Those persons who react to a slight exposure to this infection with a compensatory diarrhea do not "take" the disease. Where there are one or two cases in a household, the other members will state that on or about the time the sick ones were taken down, they "ran off" at the bowels. This has been well confirmed by experimentation with monkeys. Infective material, introduced into the digestive tract, was inactive, unless digestion was suspended by the use of morphine, when paralysis supervened.

Circulatory System.—Of the symptoms relating to the circulation, three are among the early symptoms and signs:

1. Epistaxis.
2. Flushing of face.
3. Rapid pulse rate.

The epistaxis may be due to cerebral congestion attendant on meningeal irritation. If the nasal mucosa proves to be the most frequent atrium of infection, this infection can extend by continuity through the cribriform place of the ethmoid, to meninges of brain.

Urinary Tract.—An investigation of the excretions will often disclose that the bladder has not evacuated for twelve, twenty-four, or thirty-six hours. This has been somewhat hastily referred to as due to a paralysis of the sphincter muscle. A paralysis of the sphincters would be more apt to occasion enuresis than retention. Catheterization of one case of apparent retention demonstrated a complete aneuria, due doubtless to the toxemic effect of the virus on the secreting cells of the kidneys.

Nervous System.—The important conditions relating to the nervous system, in the early stage of this disease, are:

Pain; occipital, cervical, spinal, along nerve trunks, deepseated, and apparently muscular. Tenderness on handling.

Reflexes; exaggerated during period of irritation, diminished or lost as paralysis appears.

Irritability.

Incoordination, tremor, muscular twitching, rigidity, spasticity, convulsions, opisthotonos.

Sensory disturbances manifold.

Children tell in their own way of these strange sensations.

Oscar Timme, a four year old boy seen at the New York Hospital for Deformities and Joint Diseases, told his mother:

"There are noises in my fingers," at the time paralysis was extending in his legs.

Dr. McIntyre of Minnesota reports that one little boy told him "He was dizzy in his legs." A little girl of three told him her "Head ached, and she had headache in her neck, too."

"A couple of days later when almost completely paralyzed from her neck down, and perfectly helpless, she looked up, her face drawn with suffering, and said, 'O Mamma, the mosquitoes are killing me!'"

The pain, superficial and deep, over the areas that will later become paralyzed is sometimes excruciating. The gentlest handling will make the most tractable child scream out with pain; the same intense pain will follow placing child on chamber where thigh or hip is subsequently affected.

Delirium and convulsive twitchings are seen in a larger proportion of cases than apathy and coma, and are indicative of a more hopeful prognosis.

Mistaken Diagnosis in Cases of Poliomyelitis.

Paralyses. Landry's ascending.—Probably identical.
Acute bulbar.—Identical.
Cerebral hemorrhage.—Men over fifty years.
Diphtheritic.—History.
Hysterical.—History.
Facial.—Often identical.
Occupation neuroses.—One group of arm muscles only involved.
Meningitis.
Epidemic cerebro-spinal.
Tubercular.
Suppurative.
Pneumonic.
Acute multiple neuritis.—Often identical.
Encephalitis.—Probably identical.
Typhoid fever.—Rose spots and typhoid pulse absent.
Para-typhoid.
Rheumatism.—No inflamed or swollen joints.
Peritonitis.
Pleurisy.
Pneumonia.
Grippe.
Tuberculosis of joint, (hip) if fixation from pain present.
Autointoxication.
Ptomaine poisoning.
Acute exanthemata.—Especially measles.
Skin rashes.
Dentition.
Eclampsia.
Tetanus.
Rabies.
Sciatica.
Lumbago.
Torticollis.
Gastro-enteritis.
Dentition.
Rachitis.
Scurvy.

A careful review of a case in the light of subsequent events is sometimes illuminating.

A Wisconsin boy S—— M——, had been present in a group of boys on the morning of the Fourth of July, when a toy cannon exploded. He was taken sick with convulsions late in July, and a diagnosis of lock-jaw was made by the attending physician, who knew the boy had been struck by one of the fragments of the cannon. Anti-tetanic serum was ordered, but paralysis of all extremities followed before it could be used.

Who can doubt that a proportion of the large number of cases of convulsions terminating in sudden death and attributed to lock-jaw and rabies, occurring during the heated term, which begins about the first week in July, are undoubted cases of this fearfully infective disease which is now pandemic in the old and new world?

Every such case, undiagnosed, remains a menace to the neighborhood and community.

151 Lafayette Avenue.

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GYNECOLOGICAL HINTS.

A bleeding artery in a lacerated cervix immediately following delivery can easily be controlled with a catgut suture; otherwise, no attempt to repair the cervix should ever be made at that time. It is very large and is apt to retract after suturing, so that the parts are not held in good apposition. Moreover, if the sutures are too tight, strangulation of the tissues may take place and result in sloughing.—*Int. Jour. of Surg.*

ACUTE POLIOENCEPHALITIS.[1]

BY

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The acute poliomyelitis of children has been known to the medical profession since 1840, while the knowledge of a similar process in the brain, viz., an acute polioencephalitis not limited to children, was delayed until 1881, when Wernicke described an acute superior hemorrhagic polioencephalitis which he found in alcoholics. About ten years later the acute primary encephalitis of the non-alcoholic adult was described by a number of observers. In spite of a great deal of work that has been done since, the pathology of this disease is still more or less obscure, which is probably due to the fact that recovery takes place in the majority of cases, thus limiting the possibility of post-mortem study. Hyperemia and capillary hemorrhages are probably the conditions present in milder cases, while we have more extensive hemorrhages with subsequent softening of the brain in graver conditions. The process is not necessarily limited to the gray matter as was formerly assumed, but may attack the white substance as well.

Etiology:— Intoxications and infections have been found to be responsible. Among the latter, influenza has been accused of being by far the most frequent cause. In our own observations, which were limited to a very small number, no microorganisms of any character could be identified. The few cases of other observers in which the influenza bacillus was found, showed a mixed infection and can, therefore, not be utilized for verifying this assumption.

[1]Read before the Medical Association of Greater New York (Brooklyn), June, 1911.

Ages, 18, 20, 21 and 22, showing in our cases a limitation to the young adult.

Sex, all males.

Previous history shows measles in two and is negative in two others, demonstrating the absence of any serious previous illness in any of them.

State of nutrition, perfectly normal in all four cases.

Symptomatology:—The symptomatology of the affection varies naturally with the localization of the pathological process and instead of giving you all the variations produced by this fact, I shall limit myself to those symptoms which we observed in our cases.

Prodromal signs: In two cases, headaches, lasting in one two weeks.

Onset: Sudden in all four cases.

A convulsion of an epileptic character in Case 1.

Sudden convulsion, fell to the floor and was unconscious for half an hour in Case 2. Severe headache and convulsion in Case 3. Sudden vertigo and unconsciousness in Case 4, changing into stupor on admission to the hospital.

This fact of the uniformly sudden onset which was also observed by other authors has an important bearing upon the differential diagnosis, as we shall see later on.

Rigidity of neck moderate in Case 1; very pronounced in Case 2. Pain in neck, rigidity of neck and back in Case 3. Moderate rigidity in Case 4. Present in all of them.

Headaches: General in Case 1. Severe right-sided headache, lasting for two weeks in Case 2. Severe headache lasting for two weeks preceding the attack in Case 3, disappeared on third day after admission.

Vomiting: Present in Case 1, very severe in Case 2, not mentioned in Case 3, present in Case 4.

Tache cerebrale noted in three cases. I desire to state in connection with this symptom that we attach very little importance to it in the diagnosis of cerebral conditions, finding it in other diseases also in all cases of individuals with an excitable vasomotor system.

Mental condition: Case 1, apathetic, unconcerned. Stupor deepening into coma with Cheyne-Stokes respiration.

Case 2, conscious, but irrational at times.

Case 3, dull and listless, but can be aroused.

Case 4, stupor which can be interrupted, patient answering in a slow hesitating manner.

Reflexes: Case 1, exaggerated; Kernig's sign doubtful; Babinski absent. Moderate ankle clonus.

Case 2, reflexes normal. Kernig present on both sides but more marked on the left.

Case 3, reflex markedly exaggerated, marked bilateral Kernig. No Babinski.

Case 4, reflexes normal at first, becoming very much decreased in the course of the disease. No ankle clonus. Kernig positive on both sides. No Babinski.

Hyperesthesia and Hypoesthesias: Negative in all four cases.

Paralysis: Case 2, left arm paretic on admission, improved on the next day with impairment of the muscular force.

Case 3, slight paresis of left lower facial. Weakness in left arm.

Case 4, slight drooping of left angle of mouth, paresis of left side of face without involvement of forehead.

Eyes: Case 1, right pupil larger than left and more sluggish in reaction to accommodation and light. Eye grounds normal.

Case 2, pupils equally sluggish on both sides, eye-grounds normal. Paresis of the left external rectus appeared at the end of first week, persisting until discharge. Patient regained subsequently almost complete control over the eye.

Case 3, photophobia, right pupil contracted, left pupil dilated. Sluggish reaction. Internal strabismus in left eye, subsequently bilateral ptosis, piplopia. All these symptoms appeared during the period of convalescence. Eye-grounds normal.

Case 4, marked photophobia. Nystagmus on extreme rotation and on lowering the eye ball. Pupils react slowly but equally to light and accommodation. Eye grounds normal.

Other symptoms: a. Tongue deviated to the right in Case 2.

b. Skin: Purpuric rash over knees, elbow and a few other parts of the body in Case 2.

c. Incontinence of bladder and rectum in Case 1.

d. Spleen negative in all four cases.

e. Examination of the ear negative in all four cases.

f. Urinary findings negative.

Temperature: Case 1, subnormal and normal until the last two days when it rose to 105 degrees.

Case 2, moderate pyrexia during the first three weeks, normal subsequently.

Case 3, irregular intermittent fever for the first three weeks, normal afterwards.

Case 4, normal with two exceptions when patient had a moderate elevation of temperature.

Pulse: Case 1, slow until rise of temperature made its appearance.

Case 2, slow, not corresponding to temperature.

Case 3, slow, not corresponding to temperature, rate increased during convalescence.

Case 4, from 65 to 105 first week, during the second and third, between 60 and 70, somewhat higher during the fourth week.

Respiration: Normal in cases 2 and 3, and 4. Normal in case 1 until the day preceding death.

Blood Count:—

Case 1, L. 17,200 25,800.
84% polymorphonuclear.

Case 2, L. 16,000 21,600 9,200
81% 81% 81% "

Case 3, L. 8,600 9,500 7,200
78% 74% 29% "

Case 4, L. 11,900 7,800 7,700
72% 67% 55% "

Blood: Culture negative in all four cases.

Lumbar Puncture: Lumbar puncture which was performed three times in case 1, five times in case 2, four times in case 3, and four times in case 4, gave the following results.

Case 1. Clear fluid under high pressure, later turbid.

Case 2. Clear fluid under moderately high pressure, once turbid.

Case 3. At first, bloody fluid, under high pressure containing pus; second, the same; third, less hemorrhagic; fourth, clearer.

Case 4. First puncture, hemorrhagic fluid under high pressure; pink color under pressure on second and third puncture, clearer on fourth.

Character:—

Albumin: Case 1, heavy ring.
Case 2, heavy ring.
Case 3, same.
Case 4, 4 m.m. thick.

Reduction with Fehling's solution. Positive in Cases 1, 2 and 4, absent in 3.

Globulin negative in Cases 1 and 2; positive but valueless in Cases 3 and 4, because of the presence of blood.

Cellular elements:—

Lymphocytes, Case 1—99% 41% 76%
Polymorphonuclears—59% 24%
Leucocytes, Case 2—83% 73% 50% 98%
Polymorphonuclears—17% 27% 50%
L. Case 3—20% 87% 94%
Polym.—80% 17% 60%
Leucocytes, Case 4— 91% only
Lymphocytes—90%
Eosinophiles—5% 3%
Polym.—4% 7%

No microorganisms found in any cases.

Therapeutic results of lumbar puncture: Relief of headaches and ability to rest.

Results of inoculation: Negative in Case 1, the animal dying from an intercurrent disease.

In Case 2, the inoculated rat died in thirty hours. Examination demonstrated a general bacteremia. Viscid fluid in the peritoneal cavity and gram positive motile large spore bearing bacilli in the blood and organs.

Von Pirquet positive in Cases 3 and 4.

Wasserman negative in all four cases.

Outcome: Recovery in three cases, death in one case.

Therapy:—Lumbar puncture as was indicated by the symptoms.

To make a short recapitulation, it is evident that in this malady we have to deal with a disease, the etiology and pathology of which are still obscure. It attacks the young, robust, and appears to favor the male sex.

The onset which may or may not be preceded by headaches, is sudden, and is ushered in by convulsions in some cases, in other cases present conditions varying from stupor to unconsciousness.

Rigidity of the neck and headaches both varying in degree are uniformly present. Vomiting in the majority.

The mentality is seriously impaired.

The patellar reflexes were exaggerated in three cases, absent in one.

Ankle clonus present in but one.

Kernig's sign was present in three cases, absent in one.

Babinski's sign was absent in all cases. There were no disturbances of sensation. The difficulty of recognizing such disturbances in conditions of stupor and unconsciousness being considered in the valuation of this statement.

Paralyses of the non-cerebral and cerebral type were present in three cases.

The eye grounds and ears were uniformly normal.

Skin showed a purpuric rash.

In no case could an enlargement of the spleen be recognized and incontinence of bladder and rectum was observed in but one case which proved fatal.

Temperature was normal in two cases on admission. Case 1 showing considerable pyrexia on the last two days of life, and Case 4 showing a slight elevation of short duration on two occasions. In the other two cases we find a remittent type in the first three weeks with normal conditions thereafter.

Pulse was slow in all four cases and bore no relation to the temperature.

Respirations were normal.

Blood count showed a marked leucocytosis and a fairly high polymorphonuclear count in two, with nearly normal condition in the remaining two cases. Lumbar puncture showed a clear fluid in two and a hemorrhagic liquid in the other two cases.

I want to state here that the variation in the character of the fluid which was noted in two cases might be due to the share which the meninges bear in the lesions of encephalitis.

Albumin was present in all cases; Fehling's reduction in three, globulin positive in two, but without any diagnostic value because of the presence of blood.

No microorganisms were found.

The most striking feature characterizing the cellular elements is the marked lymphocytosis which we find in all cases at some phase of the disease or during its whole course.

While the polymorphonuclear cells were increased in number, I also found the character of the fluid turbid which might possibly give us a hint in the direction of meningeal involvement.

Animal inoculation failed to enlighten us as to the etiology.

Wasserman reaction was negative in all.

Von Pirquet positive in two cases.

Outcome of the disease was favorable.

In regard to the lumbar puncture which we used for therapeutic and diagnostic purposes, I might venture the statement that we failed to observe any untoward results in any of our cases. Of course, it must be done under certain limitations with a competent clinical supervision and has to be carried out by an expert.

For the differential diagnosis we have to consider syphilis, hemorrhages and softening of the pons, uremia, acetonemia, meningism, cerebro-spinal meningitis and tubercular meningitis.

As it is impossible for me to enter upon the differential diagnostic points between all these conditions and acute polioencephalitis, I shall limit myself to those that present the greatest difficulties, viz., cerebro-spinal and tubercular meningitis.

The acute onset of the former with stupor, rigidity of the neck, headache, vomiting, general convulsions, render the conditions very difficult to differentiate. But the rigidity of the neck is usually more marked in the cerebro-spinal form.

Kernig's and Babinski's sign are more frequently present in this disease than in acute polioencephalitis.

Hyperesthesia of the skin and of the organs of vision is more marked in the former than in the latter.

Herpes, and signs of motor irritation, are found more frequently in the meningitis.

The cytological examination shows the meningococcus in the epidemic form of meningitis very frequently and while the organism may be absent in the very early and very late stages, repeated examinations will show its presence, as a rule. Moreover, the lymphocytosis which is very marked in polioencephalitis will be absent in the epidemic form, while it fails to demonstrate the polymorphonuclears present in the former.

The task of differentiating the condition from tubercular meningitis may prove more difficult if we find the cerebro-spinal fluid in both conditions sterile, flowing under a moderately high pressure, lacking in polymorphonuclears, and rich in lymphocytes.

The tubercle bacillus while frequently present in tubercular meningitis is not always found. But the history of a slowly developing condition in tubercular meningitis, in marked contrast to the sudden onset of polioencephalitis, together with the fact that lumbar puncture relieves the pressure symptoms but for a very short time in tubercular meningitis, while the relief is not only more striking but much more lasting in polioencephalitis, will aid us materially in differentiating these conditions.

The recovery will act as a supplementary diagnostic means; for while we have instances of recoveries from tubercular meningitis in cases in which the diagnosis was verified by the bacteriological examination, they are so exceedingly rare that they might safely be discarded in the consideration of a differential diagnosis.

The observation that we had a Fehling's reduction in three of our cases might be of value because this is never found in tubercular meningitis.

Von Pirquet's test loses in value by the fact that an old tubercular lesion in the same organ may, can, and often does coexist with polioencephalitis.

Serous meningitis is recognized by cytological findings and the history.

Sinus thrombosis might be mentioned as one of the conditions with which polioencephalitis might be confounded.

While my remarks are necessarily fragmentary in character, they will serve their purpose if they aid in attracting attention to the fact that a careful analysis of all the symptoms and the utilization of all modern diagnostic methods must precede the sad prognosis which we are still compelled to give in cases of tubercular meningitis.

204 Eighth Avenue.

Don't use vaginal douches after labor unless there is a special indication for them. If you do, the process of repair that is taking place in small abrasions in the perineum, vagina and cervix will be materially interfered with.

When indicated, a dull curette as large as can be easily passed through the cervical canal of a puerperal uterus can be safely used, and will accomplish all that is necessary.—*Int. Jour. of Surgery.*

THE PRESCRIPTION FROM THE PHYSICIAN'S STANDPOINT.[1]

BY

THOMAS F. REILLY, M. D.,

New York City.

The prescription from the physician's standpoint is simply an order to furnish the patient a single remedy or a continuation of remedies made into the form desired by the physician. The prescription is of course only one of the prescriptions given to patients, often only the least important, yet it has come to be regarded as *the* prescription because it is something tangible.

It has become customary to use printed blank forms for this purpose. What shall be printed on the blanks? Prescription blanks should not contain the names of any pharmacist. To this there may be very rare exceptions—in places wherein there is only one reliable pharmacist in a neighborhood, but such conditions must be very rare. It should not be done because it begets suspicion on the part of the other pharmacists that the physician is attempting to help a rival rather than trying to be impartial. It begets suspicion on the part of the patient that there is some commission arrangement between physician and druggist. This will become more keenly felt now that the subject of division of fees has become such a burning question. Personally I do not believe that there is any foundation for such suspicion, as I believe that such a commission arrangement between physician and druggist is very rare, and if it does exist it is so only in the slums.

Whenever narcotics or drug habit forming drugs are employed the blank should contain a statement that the prescription is not to be refilled without the physician's request. Practically in most parts of the city this policy of asking for a new prescription when narcotics are ordered is followed by pharmacists whether there is such a statement or not on the blank. Some physicians have a statement on the blank to the effect that the prescription is not to be redispensed and that it is intended solely for the present state of the patient whose name is on the prescription. Such an elaborate blank is seldom employed, but some of the better class of pharmacists put a label of that general tenor on the bottles when dispensed.

The late Wm. Pepper used to have printed on his prescriptions given to out of town patients a statement that the whole prescription should be copied on the label on the bottle. He said he did it as a matter of self protection. If a patient of his out in the state should be taken suddenly ill after taking a dose of the medicine and a strange physician were called in as would likely be the case he would be able to tell at a glance whether the medicine was the cause of the symptoms or perhaps give him a clue as to the primary ailment that the patient suffered from. One might also say that it would tend to disarm unfavorable criticisms, as many country physicians are notoriously apt to take advantage of any means of injuring another man's reputation to their own advantage. It would not surprise me greatly if in the near future the pure food law should be so amended as to require that all of the narcotics and their quantities be copied on the labels. Whether this would be best for the patient, I leave to you for discussion.

There are many things to be said in favor of copying all prescriptions on the labels and there is much to be said against

[1]Read before N. Y. County Medical Society.

it. Certainly anyone who has treated physicians knows that better results are obtained if they do not know what they are getting and the same holds true of the pseudo-scientific layman, who usually reads the prescription when given to him. On the other hand, several Continental nations require that the ingredients and the actual cost of each as well as value of the druggist's services in compounding be placed on the label of all prescriptions. Yet one does not read of many complaints on the part of the physicians practising in these countries—possibly it is a question of racial characteristics.

The use of the carbon copy is now becoming quite general and it is a great advance. In this way the discrepancies between the prescriptions as found in the druggist's file and the physician's record are impossible. Furthermore sometimes when one is in a hypercritical mood, especially in his younger years, he is apt to question himself what he really put in the last prescription. The complaint has long been made that the prescription given for some complaint has been repeated *ad infinitum* both by the patient and his friends often to their detriment. It seems scarcely fair that a prescription given to a patient for some ailment such as bronchitis be peddled by the patient to his friends for years for similar conditions and yet the doctor receives but a single fee. It is undoubtedly a hardship to the physician. Yet from an ethical standpoint one cannot consider it wrong. If the patient takes on himself the diagnosis of the complaint he is fully as much justified in recommending it as he would sweet spirits of nitre or any other simple remedy, inasmuch as the prescription belongs to him.

AS TO DOSAGE.

Whenever very large doses are ordered they should be marked with an arrow or star to show the intention. In a few instances standard text books and the Pharmacopea differ widely in the question of dosage. Whatever system of dosage a physician has been taught he should invariably prescribe in that system, the changing of apothecary to metric is not a safe procedure by one skilled in the former and not in the latter. The druggists are for the most part more familiar with the apothecary system. A metric prescription always entails a mental process on the part of the drug clerk that may or may not be correct depending on his state of mental fatigue at the time. If on the other hand the metric system is generally employed in a community of course the reverse holds true.

AS TO THE LANGUAGE OF THE PRESCRIPTION.

There is a tendency to use less Latin and more English in the prescriptions. Most of the prescriptions written today at least have the directions written in English and this is as it should be. Every once in a while a patient will come to us with the statement: Doctor did not the prescription read: A teaspoonful every 4 hours? Well, here on the label it reads a tablespoonful—sometimes a grievous error. I believe that there is also a tendency to use English terms in the body of the prescription; often there is scarcely a Latin word in the whole prescription. Yet the lay editor fondly imagines that we still wrap ourselves up on the mysticisms of a dead language.

THE BODY OF THE PRESCRIPTION.

The reason for combination in the prescription:

(1) In addition to the active ingredient we were taught the advisability of adding some agent to overcome certain drawbacks and untoward symptoms of the active ingredient, this has been styled the corrigent.

(2) There is added the adjuvant or some solution to render the prescription more palatable. We have gradually simplified the prescriptions today and it is seldom that more than one or two active ingredients are combined in a single prescription. Likewise one hears less and less of corrigents. The principal reason for the combination of active agents is because of the difficulty in getting a patient to take more than one mixture and secondly by no means the least is the question of expense. Many people do not mind what they pay for physicians' services, but dislike very much to pay anything for the professional services of the pharmacist. The physician is made to feel this fact and consequently often tries to combine one or more active agents in the prescription.

In the past much care and skill were often necessary to prevent unsightly mixtures and precipitates. Today as the technique has become simpler the work of the pharmacist is lessened and more and more the attention is directed toward making the mixture palatable. The physician must realize this if he wishes to succeed with the better class of practice. The sensitive nervous system of the present generation is very finicky in the matter of the tastes of medicinal agents and seldom will anyone take the nauseous mixtures regularly prescribed by the physicians of two decades ago. This is really the greatest factor in the success of the homeopath —many a fond mother realizing that the child or even the adult will take sugar pellets and that he will not take the regular medicine reasons that it is infinitely better that he take some kind of medicine than none at all. You may expostulate as you choose, when the child recovers it is the third trituration that cured it—to the mother's mind and nothing can change that opinion.

This is the principal reason why proprietaries are prescribed—not I believe so much because of their wonderful claims as of their palatability and physicians will continue to do this until they are educated in the writing of palatable prescriptions either by their pharmacist or by medical articles.

What does the doctor expect of the pharmacist with regard to the prescription?

(1) Not to look at the prescription, in the presence of the one who brings it, with raised or contracted eyebrows or a wise shake of the head or perhaps a smile coupled with the remark that "this is pretty strong medicine." "Be mighty careful," etc. He expects that no comments whatsoever will be made to the patient. If the dose seems too large or there is some other fault in the prescription the telephone is always at hand. If this is absolutely impossible and he still feels it is very much wrong he might very well give a small quantity of what he believes the doctor wishes and communicate with the physician in the meantime and then send the rest of the prescription as the physician directs. Certainly he should not advise the patient of the possible larger dose. He should not paste poison labels on every tincture or galenical just because when given in enormous doses it may become poisonous.

Patients rarely like to take medicines with a poison label on the bottle no matter how essential the medicine may be for their well being. Woe to the doctor whose cardiac patient suddenly dies after taking say ten minims of tincture of digitalis from a bottle bearing a poison label. Explanations will be long and tedious. The physician also expects that his prescription will not be open to the inspection of any neighboring doctor or to the comments of the one who is closely affiliated with the pharmacist. Unfortunately in most instances the file is open to anyone who chooses to read it.

After all the prime interest of the physician in the prescription is that it shall be filled faithfully with chemicals and agents conforming with the U. S. P. in strength and with honest proprietaries.

In an assemblage of leading men in the pharmaceutical profession this may seem a self evident statement, yet the confidence of the medical profession has been pretty generally shaken in the integrity of the average pharmacist. The exposure made by the N. Y. Health Department a few years ago showing that at least one-half of the prescriptions calling for certain coal tar derivatives were falsely filled startled the physicians as to the frequency of substitution. The recent crusade of various proprietary houses followed by the very thorough and convincing investigation of the *N. Y. World* showing that even the simplest agents were adulterated and that drugs of the cheaper classes were omitted and still cheaper agents substituted has made the profession and laymen ask how many honest druggists do we have? It is true that the investigation was so done as to avoid suits for libel and the names of the pharmacists were omitted which really nullifies to a large extent any real good that might have resulted from such an investigation. Yet every few weeks one receives a letter from well known proprietary houses containing fresh lists accusing certain specified pharmacists of substituting their medicinal agents. Certainly this is either true or libelous.

This is all the more important when one considers that it is not the little Middle of the Block Pharmacist who was at fault but was more commonly the case with the rich and influential gentleman long established at the corner. I am afraid that until the pharmaceutical societies take the matter in hand and punish without fear or favor or have a law passed taking away the diploma or license of a pharmacist found substituting that the distrust will grow.

Certainly something must be done, otherwise the number of written prescriptions will diminish and the dispensing of tablets will become more general. It appears to me that it would be quite feasible for representative medical societies, such as this, i. e. The Medical Society of the County of New York, to select a number of pharmacists who have been tried and found not wanting and to publish such tests monthly, in each case certifying as to their reliability much the same way as we now do with certified milk.

Certification has worked well in the matter of certified milk and I can see no reason for its failing in this instance. It is certainly much more important that we have reliable medicines than reliable milk. It would raise the standard of pharmacy by causing the pharmacist to investigate and assay if necessary the drugs that are sold to him and would make him think twice before substituting an inferior article. It is too horrible to contemplate how

many lives have been lost through such substitution or how many come to an untimely end, because the agent is not up to the pharmacopeal standpoint. For instance a great portion of the digitalis on the shelves is less than ½ the pharmacopeal strength. Yet this life saving agent in the small doses is practically useless and the patient dies because he did not get enough of it.

It is not a pleasure to call attention to this feature and I do not believe that you gentlemen who are here tonight are in the category mentioned—on the contrary by your very presence here you show that you wish to raise your profession out of the slough of despond that it has been engulfed in and that you have high ideals nor have I personally seen much of this evil. Yet repeated conversations with physicians in various parts of the city have convinced me that something very radical must be done and there is a feeling that if such an expose had been made of any other profession that measures would have already been taken to investigate the matter and to remedy the abuse.

204 W. 141st St.

THE PUERPERAL UTERUS.

The puerperal uterus has been many times severely injured with the sharp curette. There are many instances where a curette has been pushed through a soft uterus; it is impossible to pull one through. Therefore, great care should be used in introducing the instrument into the uterine cavity and all force should be avoided in pulling it out. This little precaution will prevent many a perforation of the uterus. —*Ralph Waldo.*

SOME REMARKS ON MEDICAL TEACHING.[1]

BY

LOUIS H. SCHWARTZ, A. B., M. D.,
New York City.

The subject which I have the privilege of presenting here is one which is of importance not alone to this Society, but to the entire medical profession and the general public as well. The community has the right to expect that men licensed to practice medicine shall be as well trained and fitted for their work as it is possible, by every known means, to make them. Never, at any age, nor at any time was medicine upon a more scientific footing than to-day, and yet we are confronted by this astounding paradox: the greater the advancement of medical knowledge, the more is the profession attacked and the greater are the number of pseudo-medical creeds which flourish. Optometrists are licensed in the face of our protests, osteopathists are placed upon an equal footing with regular physicians, alienists have become a laughing stock to the lay mind, and the antivivisectionists have the best prospects of soon putting a stop to all experimental medicine and therefore to progress. Christian Scientists, Psycho-therapists, New Thoughters, Emanuel Movement workers and other forms of quackery and their followers are on the increase. All of which tends to show how highly our profession is regarded. But when we find a physician graduated within the last ten years for six months treating a case of advanced pulmonary tuberculosis as a "stomach cough" or you run across a case of lobar pneumonia which one of our

[1]Read before the Yorkville Medical Society, May 4, 1911.

honorable profession has diagnosed and treated as a case of "fever," is it at all surprising that we are falling into disrepute? These, to be sure are extreme instances, but they point clearly to the fact that there is something wrong in our body somewhere, and it is for us to get at the etiology, make the diagnosis, and apply the proper therapeutic measures. But we physicians as a class are so much engrossed in the scientific side of medicine, that we are practically blind and deaf to measures which are inimical to our practical welfare. This is the age of organization, of system, and of concerted action, and from this viewpoint we are centuries behind the times. Even where, as individuals, we see wrongs which ought to be righted, as a body we generally do little or nothing.

For these reasons, gentlemen, I think that the officers and members of the Yorkville Medical Society are to be congratulated in deeming it wise to set aside this meeting for a consideration of matters outside of scientific medicine and I am particularly pleased to know that we shall have the honor of being the first to call attention to the need of a certain reform in our teaching system, a reform which is bound to come before very long. So far as I have been able to learn, nothing has ever been said or written on that particular phase of the question of medical teaching which we shall consider to-night.

Few here are teachers of medicine in the sense of being instructors at the medical schools, and I am sure that many of you feel that this is a matter to be taken care of by the colleges themselves and not by us. But let me quote a few lines from Baas' History of Medicine on this point. He says, "In the 16th century the students chose the rector and officers of the universities and even the teachers. They assisted in determining the course of study and also watched over the execution of the curriculum—a plan which, in many cases at least, would be judicious to-day." Moreover in a broader way, we are all teachers of medicine.

At our medical societies we teach one another, or try to, and in practice, we teach the public. Even in so simple a matter as the presentation of a case, one man will succeed in arousing interest, in holding the attention, and in teaching us things so that they shall be indelibly impressed upon our minds while, on the other hand, another man, with a more unusual case makes no impression whatever, sends nothing home to us, and the effect is perfectly flat. Therefore, I trust that I am not presuming too much, when I say that I believe these remarks may be of some value to all.

In years gone by, the student of medicine as you know, was trained by personal association with a practising physician. At a later period, came the proprietary medical school, in which, as a general rule, a body of doctors got together, organized themselves into a business corporation for personal gain, and ran a medical college. The present and coming medical schools are mostly endowed, and are part and parcel of the universities. These institutions see to it that those who are to teach in their academic and most other branches are men and women who have made a study of the principles and practice of pedagogy or the art and science of teaching; that is that they know something about teaching in itself, besides being familiar with the subject matter which they are to teach.

Vomiting: Present in Case 1, very severe in Case 2, not mentioned in Case 3, present in Case 4.

Tache cerebrale noted in three cases. I desire to state in connection with this symptom that we attach very little importance to it in the diagnosis of cerebral conditions, finding it in other diseases also in all cases of individuals with an excitable vasomotor system.

Mental condition: Case 1, apathetic, unconcerned. Stupor deepening into coma with Cheyne-Stokes respiration.

Case 2, conscious, but irrational at times.

Case 3, dull and listless, but can be aroused.

Case 4, stupor which can be interrupted, patient answering in a slow hesitating manner.

Reflexes: Case 1, exaggerated; Kernig's sign doubtful; Babinski absent. Moderate ankle clonus.

Case 2, reflexes normal. Kernig present on both sides but more marked on the left.

Case 3, reflex markedly exaggerated, marked bilateral Kernig. No Babinski.

Case 4, reflexes normal at first, becoming very much decreased in the course of the disease. No ankle clonus. Kernig positive on both sides. No Babinski.

Hyperesthesia and Hypoesthesias: Negative in all four cases.

Paralysis: Case 2, left arm paretic on admission, improved on the next day with impairment of the muscular force.

Case 3, slight paresis of left lower facial. Weakness in left arm.

Case 4, slight drooping of left angle of mouth, paresis of left side of face without involvement of forehead.

Eyes: Case 1, right pupil larger than left and more sluggish in reaction to accommodation and light. Eye grounds normal.

Case 2, pupils equally sluggish on both sides, eye-grounds normal. Paresis of the left external rectus appeared at the end of first week, persisting until discharge. Patient regained subsequently almost complete control over the eye.

Case 3, photophobia, right pupil contracted, left pupil dilated. Sluggish reaction. Internal strabismus in left eye, subsequently bilateral ptosis, piplopia. All these symptoms appeared during the period of convalescence. Eye-grounds normal.

Case 4, marked photophobia. Nystagmus on extreme rotation and on lowering the eye ball. Pupils react slowly but equally to light and accommodation. Eye grounds normal.

Other symptoms: a. Tongue deviated to the right in Case 2.

b. Skin: Purpuric rash over knees, elbow and a few other parts of the body in Case 2.

c. Incontinence of bladder and rectum in Case 1.

d. Spleen negative in all four cases.

e. Examination of the ear negative in all four cases.

f. Urinary findings negative.

Temperature: Case 1, subnormal and normal until the last two days when it rose to 105 degrees.

Case 2, moderate pyrexia during the first three weeks, normal subsequently.

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Case 4, from 65 to 105 first week, during the second and third, between 60 and 70, somewhat higher during the fourth week.

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Blood: Culture negative in all four cases.

Lumbar Puncture: Lumbar puncture which was performed three times in case 1, five times in case 2, four times in case 3, and four times in case 4, gave the following results.

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Case 4. First puncture, hemorrhagic fluid under high pressure; pink color under pressure on second and third puncture, clearer on fourth.

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Therapeutic results of lumbar puncture: Relief of headaches and ability to rest.

Results of inoculation: Negative in Case 1, the animal dying from an intercurrent disease.

In Case 2, the inoculated rat died in thirty hours. Examination demonstrated a general bacteremia. Viscid fluid in the peritoneal cavity and gram positive motile large spore bearing bacilli in the blood and organs.

Von Pirquet positive in Cases 3 and 4.

Wasserman negative in all four cases.

Outcome: Recovery in three cases, death in one case.

Therapy:—Lumbar puncture as was indicated by the symptoms.

To make a short recapitulation, it is evident that in this malady we have to deal with a disease, the etiology and pathology of which are still obscure. It attacks the young, robust, and appears to favor the male sex.

The onset which may or may not be preceded by headaches, is sudden, and is ushered in by convulsions in some cases, in other cases present conditions varying from stupor to unconsciousness.

State Board examinations." Personally he was one of the finest, most courteous and obliging gentlemen one could wish to meet, but his lectures were very poorly attended and those who did go paid scarcely any attention because he himself was uninterested in his work. Surely the purpose of teaching is not to prepare pupils for examinations. Good teaching assures attention and respect. Scholars enjoy the man who knows a little outside of the students' texts and shows a love for his specialty. He invites cooperation and encourages the learners to do much of the work themselves. To keep up enthusiasm and vivacity one must change methods, study constantly, and mingle with the younger men.

These few pedagogical principles which I have called to your attention namely, knowledge of subject, necessity of plan, preparation, clearness, and enthusiasm, are undoubtedly so elementary that many will be tempted to remark, "Why all that is so simple, everybody knows it." And yet, if this be true, do all teachers employ them in their work? Are teachers always interesting? Do they hold the attention? Can we always follow them clearly? Do they bring out with sufficient emphasis what is truly important? In other words do they really teach?

Undoubtedly every school has some good instructors, because teachers are born, not made; but a little attention to the principle of pedagogy will go a long way towards improving those who are not so gifted. Not so long ago it was believed that anybody who knew reading, writing and reckoning was competent to teach school. Those days fortunately, have passed and now only those who are specially trained can hold the important office of preceptor. With the advance of medicine as a science, the same change is bound to come in the medical colleges, and in the future the men chosen to be members of the faculty will not be those who have merely proven themselves successful practitioners, but those who also possess a sufficient knowledge of the art and science of teaching.

A CASE OF LABYRINTHINE DEAFNESS PROBABLY DUE TO GRIPPE; WITH SOME REMARKS ON THE EAR COMPLICATIONS OF PSEUDO-INFLUENZA.

BY

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On February 14th, 1911, Dr. J. C. Pound referred to me Mr. J. T. N., a young man twenty-six years of age, who complained that he could not hear with his left ear. Mr. N. said that he had always had markedly acute hearing and was, therefore, very much surprised on awakening one morning to find that while lying on his right side he was unable to hear the usual street noises to which he had been accustomed. Thinking that the deafness was a transient one and probably due to a cold in the head, he waited for two weeks before consulting a physician; his hearing not improving in this time and the tinnitus, which had begun with the deafness, having increased, he went to see Dr. Pound who referred him to me for further examination.

I found both canals free of obstruction, the drum-heads normal in appearance and no external evidence of middle ear trouble. There was a slight deviation of the nasal septum toward the left side and congestion of the nasal mucous membranes; I

had no difficulty, however, in catheterizing the mouths of the Eustachian tubes and found the tubes patulent. The hearing tests proved the right ear to be normal, the left ear totally deaf. In detail the results of the tests as applied to the left ear were as follows:

Weber's Test.—512 v. s. Fork; sound referred to right ear; voice not heard; watch not heard by air or bone.

Tuning Forks.—128 v. s. not heard by air or bone.—512 v. s. not heard by air or bone.—1024 v. s. not heard by air or bone.—2048 v. s. not heard by air or bone.

Galton Whistle not heard.

The hearing tests having shown that the deafness was due to loss of perception for sound and not to faulty transmission, the question arose of determining the location of the nerve lesion, and with this in view, the left ear was gently irrigated with water at 45° F., after the method of Bárány; irrigation was kept up for several minutes without labyrinthine response, there was no sensation of vertigo and nystagmus was entirely absent. Whirling on a revolving stool caused slight vertigo when the revolutions were toward the right; when the patient was revolved toward the left there was no reaction.

On the following day the hearing tests were repeated and gave the same results as previously noted. That there might be no source of error, and that the negative Bárány findings might be confirmed, the labyrinth was again tested; at this examination I used a measured quantity of fluid at 45° F., and allowed seven ounces to flow against the tympanic membrane, only sufficient force being employed to carry the water, without pressure, against the drum-head; again, as at the first examination, there was no reaction. I then irrigated the right ear in exactly the same manner; by the time four ounces of the water had been used the man complained of excessive vertigo and the characteristic nystagmus had developed. The test was discontinued after five ounces of the fluid had been used and by this time it was necessary to assist the patient to a couch that he might lie down; his vertigo was intense, and the nystagmus, increasing when the eyes were turned toward the left, was beautifully demonstrated.

Having decided, to my own satisfaction, that the lesion lay within the internal ear, involving not only the cochlea with the auditory nerve endings, but the vestibule and the semicircular canals as well, it became an interesting problem to determine the etiology and pathology of such a condition.

The patient was a young man, well developed and in good health; his family history was good and he had had no serious illness in his life. His habits were moderate, he seldom took alcoholics and then only a glass of beer, he smoked, perhaps, ten cigarettes a day. He denied all venereal trouble, and after the usual correlative questioning, I had no reason to doubt his word.

At this visit he gave me the following history, which he had not connected with his deafness. On December 30th, he suffered an acute attack of grippe, it was not very severe but he felt weak and good for nothing and had the usual symptoms of a severe cold in the head, and is sure, that on one night at least, he had quite a good deal of fever, as he was very warm and restless. He stayed at home, in bed, and dosed himself with tablets containing quinine, taking fifteen grains of quinine in all. On January 2nd, he felt so much

better that he went out and stayed out of doors most of the day; the weather was cloudy and raw and when he returned home that evening he again felt badly and had contracted a sore throat. On Wednesday, two days later, he felt so much better that he went back to his work; his throat, however, continued to be slightly sore and stiff for several days and then cleared up, his coryza persisted longer, and as I have mentioned, he still had some congestion of the nasal mucous membranes when I saw him.

He had not connected the spell of grippe with his deafness for the reason that he had been apparently entirely well for three weeks before he had noticed the trouble with his ear, also he was quite sure that the deafness had not been gradual in onset but had occurred quickly and completely at approximately the time he had first noticed the defect.

Tinnitus began with the deafness, and a few days later he noticed a tendency to vertigo, this latter symptom was periodic, for example, while walking along the street he would suddenly feel as if he was swaying from side to side, more especially toward the left. If he threw his head back suddenly, as in looking upward, that movement would also bring on the same sensation of dizziness. The vertigo was never severe enough to make him lose his balance, but was sufficiently noticeable to be disagreeable; he thought it due to a deranged digestion, as there had been one or two days on which he had been nauseated but did not vomit. These vertiginous sensations persisted for perhaps a week or ten days and then gradually decreased in severity, so that by the time he had come under my observation, he only noticed them at long intervals.

A further examination of the patient showed his eye grounds to be normal and all indications of any central nerve lesion absent. His urine was normal, his blood pressure 107 m.m. Hg. A blood examination, for which I am indebted to Dr. Roger S. Morris, showed nothing of interest; the red and white cells were normal in number, the hemoglobin percentage, 89% (Sahli); there were no abnormal red cells and a differential leucocyte count showed the normal proportions. Such a blood count would seem to exclude the existence of a pyogenic inflammation or the occurrence of spontaneous hemorrhage as the result of an anemic dyscrasia. In brief, I could find no other cause to explain the loss of labyrinthine function, than the rather vague history of the attack of grippe.

The patient was put on potassium iodide in increasing doses, strychnine sulphate grs. 1/30 t. i. d. and given profuse sweats by the use of pilocarpine and the Turkish bath. This treatment was continued energetically for several weeks but was without effect. I have recently had the opportunity to again examine the patient and finding that there had been no improvement whatsoever in his hearing after five months, I gave the opinion that the ear was totally and permanently deaf.

It is hardly justifiable to assert that this man's deafness was undoubtedly due to influenza; aside from the certainty that the great majority of the recognized causes of nerve deafness were excluded, the facts still remain that such an etiology is based upon a diagnosis of grippe made by the patient himself, that the general disease was of slight severity and of short duration, with the patient apparently entirely well several weeks before the ear affection

was noticed. That epidemic influenza, however, is not, by any means, an unheard of cause of nerve deafness may be assumed from the text-books and writings of many authors (2, 3, 4, 5,) who accredit it as an etiological factor in labyrinthine affections. It was certainly recognized as such as early as the great pandemic of 1889-'90, perhaps sooner, though that is the earliest reference (6) I can find. In spite of the many references to the disease as a cause of nerve deafness, I was surprised to find how few cases had been reported as such; my search through the literature has not been exhaustive and no doubt many cases are hidden by titles which do not indicate the cause of the labyrinthine deafness, or lost in articles dealing with the ear complications of influenza as a whole, as, for example, in the *Laryngoscope* for March, 1902, M. A. Goldstein, in a paper entitled, Ear Complications and Sequela of Grippe, says that he has seen four or five "grippe ears" complicated by sudden nerve deafness, not only in the early stages but as late as the third or fourth week. He considers the complication a grippe neurosis affecting the labyrinth. Goldstein's cases were all preceded by a purulent otitis media.

In the English and American literature I have found but one case reported of otic neuritis, due to influenza, without a preceding or existent middle ear involvement. W. B. Johnson[1] reported before the American Otological Society a case of bilateral total nerve deafness following a severe atttack of the nervous type of influenza. The middle ears were normal. At the time of the report the author knew of no similar case. I also found reference to one other case but was unable to obtain the report in full (7).

In my case the question arises whether or not the patient had a true influenza, there is no doubt that we too often make the snap-shot diagnosis of grippe, or allow the patient that privilege, when many of the classical symptoms of influenza are absent, and when it would be impossible to isolate the bacillus of Pfeiffer; on the other hand, although we may be technically at fault, we are fully aware that the endemic influenza nostras, (so-called by Leichtenstern (1) and which he says bears the same relationship to true influenza as cholera nostras does to Asiatic cholera), is attended by as many ear complications, as equally difficult to distinguish from the true grippe ear, as is influenza nostras from influenza vera; that my patient had had a catarrhal fever of the influenzal type is unquestionable.

We see here in Baltimore many cases of acute exudative otitis media, secondary to just such an infection as the man described, and to which the mucous membranes of his upper air passages bore witness. The middle ear, in these cases, is doubtless directly infected by extension up the Eustachian tube; the drum-head becoming hyperemic and thickened with bulging of the membrana flaccida and in the postero-superior quadrant. The amount of exudate poured out into the middle ear varies, in some cases the attic and upper part of the tympanum seem to be alone involved, for whereas, the superior half of the tympanic membrane shows congestion, thickening and bulging, the lower portion of the membrane remains normal in appearance, retaining its lustre and the cone of light. If the drum-head is incised it is found to be actually thickened and only

[1]Johnson, W. B., Transactions of the American Otological Society, 1899.

a small amount of fluid is found within the tympanum. In another group of cases there is an excessive exudate into the tympanum, the drum-head showing extreme bulging and tension. Contrary to the rule, and in distinction from the true grippe ear, these cases, even those with a great amount of exudate, are not attended by the extreme nauseating, sharp and lancinating pain of a purulent otitis media, the patient complains instead, of a sense of fullness and a dull aching. There is seldom fever above 100° F.

The absorption of the exudate in these cases is very slow, unless the process is hastened by a free incision of the drum-head; the fluid so obtained is never purulent in appearance, it is always a serous, watery discharge tinged with blood. Microscopic examination of smears, made at the time of puncture, have confirmed the non-purulency of the exudate by showing it to contain a few leucocytes and diplococci in more or less numbers. Where cultures have been made, this diplococcus has proven to be the ordinary pneumococcus of Fränkel. In all these cases of acute exudative nonpurulent otitis media complicating endemic grippe, the Eustachian tube on the affected side is found swollen and partially or completely closed. The mucous membranes of the nasal cavities and pharynx are swollen and congested, and in the latter situation, swollen lymphoid follicles, studding the posterior wall, are common.

My digression in considering the middle-ear complications of pseudo-influenza has been for the purpose of offering a possible reason and constructing a theory of the pathology, which has seemed not altogether too far fetched, as an explanation of the labyrinthine involvement in the case I report. It does not seem probable that the quinine taken by the patient had any influence, he took but fifteen grains in all, in three grain doses, divided over twenty-four hours; he had frequently taken much larger doses without ill effect, and although the symptoms, in some particulars, were not unlike a drug neuritis, this should not have occurred at a time when the quinine would have long since been eliminated from the system.

We are aware of the intense congestion and the tendency to hemorrhages and the outpouring of serum from the blood vessels of the mucous membranes during influenzal infections, that this tendency is also present in the cases of exudative otitis media due to the pneumococcus, I have already shown. The symptom-complex of the labyrinthine case under discussion, is more strongly suggestive of a hemorrhage or the outpouring of serum into the internal ear than of anything else. Such a condition may be explained by imagining a hematogenous infection, by way of the labyrinthine vessels, the microorganism finding lodgment in an end artery and there setting up an inflammation, nonpurulent in character, mild in nature, but of the kind to cause a loss in vasomotor tonus with the resulting dilatation of the capillaries and an osmosis of serum.

The cochlea[1] branches were evidently first affected, the resulting pressure from the exudate causing a neuritis of the end organs of the otic nerve, and therefore, the

[1]Shambaugh: On the Significance of Certain Labyrinthine Symptoms, Trans. Amer. Otological Society, 1909; page 429. "When the cochlea alone is involved the symptoms of tinnitus and deafness will occur, and when the vestibular portion alone is involved only vertigo and disturbance of equilibrium will arise with perhaps nausea and vomiting."

symptoms of cochlea involvement, viz.: *deafness and tinnitus*. We can assume that the process then slowly extended to the vestibule and semicircular canals with the resulting symptoms of affections of this portion of the internal ear, viz.: *vertigo and nausea*.

Why three weeks should have elapsed between the acute infection and the ear complication, may only be explained by the fact that the mucous membranes of the nasal cavities and the throat swarm with the infecting bacteria long after acute symptoms have subsided.

Why there was no improvement we can presume to be due to permanent injury to the nerve endings as the result of pressure from organization of the exudate.

In conclusion, I may say that it is not without a certain hesitancy that I report the case as due to grippe upon such speculative reasoning; my apology, however, if such be necessary, is the view that whereas no less an authority than Politzer says, that of all the cranial nerves the auditory is the most frequent to be attacked by toxic substances, it is very rare to find a case of total, uncomplicated and uncombined nerve deafness in a young person, arising from a cause more or less idiopathic.

The work of Bárány and others has opened up a field for labyrinthine diagnosis which is not only theoretically and scientifically fascinating, but also eminently practical and important. I am glad to be able to record a nonpurulent case in which the labyrinthine tests have been of value in diagnosis.

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506 Cathedral St., Baltimore.

LACK OF DRUG STANDARDIZATION.[1]

BY

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It has been generally recognized that faith in the physiological action of drugs has undergone in the last decade a very marked decline. The present day physician due to the many many times that the use of drugs has failed him has developed a distinct loss of confidence toward time honored remedies and prefers the application of the latter day methods, namely dietetic, hygienic and prophylactic measures, making use of drug therapy in many cases only as a placebo to retain the confidence of the patient or to meet the requirements of some lesser incident, thus decreasing the importance of drug therapy and allowing it to play only a minor part in treatment.

This being true, as no doubt most of you will agree, the question naturally presents itself, what are the essential causes for the uncertainty of results in the use of drugs? Is it that the profession originally placed too much dependence on drugs or is it that drugs are being collected, compounded or dispensed in such a non-scien-

[1]Read before the Staff Assoc. of Williamsburgh Hospital, June 5th, 1911.

tific or non-dependable manner as to produce a radical departure from what hitherto has been the main reliance in the treatment of medical cases by the profession.

Many may be inclined to explain the fact by inferring that drug therapy has not kept pace with the progressive march of medicine, also that the physiological action of drugs as explained in the text books, is to a large degree mythical and that science which has been productive of serums and vaccine therapy with their certainty of action has replaced drug therapy.

Those of us who have been fortunate enough either to obtain or to specify standardized drugs to be administered to our patients will testify to their reliability. That such drugs with definite alkaloid or active principle percentages are capable of producing a distinct physiological action can be easily proven by instruments of precision, as the sphygmomanometer which accurately measures the blood pressure and whose column of Hg. can be quickly raised by the physiological action of standardized digitalis, strychnine or ammonia, or just as quickly lowered when the subject is exposed to the fumes of standardized amyl nitrate or introduction of standardized nitro-glycerine. The revolving drum, ergograph, may be mentioned as other instruments which lend their accuracy in proving that the physiological action of standardized drugs is a scientific fact.

It can hardly be questioned that the loss of confidence and resulting indifference toward drug therapy has been brought about by the clinical failures seen every day by the average physician. After administering a drug—a drug for instance that in some cases has proven successful, yet in many cases unsuccessful—if the latter far outnumbers the former, that particular drug is usually sooner or later dropped from the list of the practitioner. After several further disappointing experiences with other drugs he soon openly voices his lack of confidence in drugs; yet in defense of that physician's knowledge of therapeutic indication he has nothing to prove that his judgment was correct and that a successful result might not have been obtained had that drug been previously standardized and tested physiologically.

That just such results as these have been the experience of many of us we can all affirm, consequently the underlying question comes plainer into view: to what extent and by what manner do the drugs most often used by us differ from what they are legally required to be in order to meet the requirements of the U. S. P.?

The extent of variance is so extensive in recent reports as to leave no doubt as to the unreliability of drugs when dispensed in this manner. Speaking to several reliable pharmacists recently as to the prevalence of substitution, it was admitted that while substitution still existed, the practice was very limited. Drugs that are closely related as the halogens for instance, which include the iodides, bromides and chlorides especially when disguised in a syrup or elixir solution can be readily substituted and defy detection. The coal tar products may also suffer substitution especially as this class of drugs are all closely related. Most have their trade name, for example, as phenacetin, but as acetphenetidin this and other preparations often come from unreliable sources, are sold confidentially to pharmacists and are of much questioned value. Ung. Hydrargyrum is defined as a

50% preparation of metallic mercury. Only recently the Board of Pharmacy fined a druggist for substituting this preparation by one which consisted of hydrarg. bichloride colored with charcoal to appear like the original. The result of such medication is apparent.

More important than substitution is lack of standardization. The great failure to have drugs properly assayed or even tested physiologically has played a great part in this increasing lack of confidence, for with poor and unreliable drugs one cannot expect anything but similar results.

As important a drug as digitalis may be mentioned. The U. S. P. distinctly states that the leaf shall be of the second year's growth, since it has been demonstrated that the glucocides are present in these to a greater per cent. How much this is adhered to is a question, when in the U. S. Hygiene report No. 18, which presented the results by observers all over the world of the action of digitalis, such action varied as 1 to 4.

Speaking of digitalis the late Professor Janeway once remarked that if no apparent result could be obtained by using this important drug within twenty-four hours, not to replace it by an inferior one, but rewrite the prescription and trust to another pharmacist.

Thus a careful inspection in the care and collection of crude drugs by the curators, together with a greater degree of accuracy in compounding these crude drugs, and careful standardization into preparations by the large wholesale drug houses would no doubt remove much of the unreliability.

A recent investigation into the manner and accuracy of dispensing by New York City pharmacists places a number of our near related profession in a very unpleasant light. From a total of 226 prescriptions which were indiscriminately placed throughout the city for compounding, only eighty-one according to analyses by Prof. Coblentz of Columbia University were returned as having complied in every way with either the ingredients or per cent. desired. Twenty prescriptions for KI were ordered. None was received as O. K., all varying from seventy per cent. below what was ordered to 14% above percentage ordered. Tr. Opii—11 prescriptions ordered—none dispensed accurately, and varying from twelve per cent. below to eight per cent. above what was written. Guaiacol—five prescriptions ordered, all being over 40% below that ordered. Tr. Aconite, 6 prescriptions varied from eleven per cent. below to eight per cent. above. Tincture of belladonna—five prescriptions, none accurate, ranging from 42 per cent. below to 15 per cent. above.

Physicians themselves are frequently responsible for the poor showing of the pharmacists. Personal dispensing, forcing the pharmacist to buy many expensive articles, the larger portion of which remain unused; prescribing of proprietary medicines has also forced the pharmacist to protect himself financially and also increase his lack of confidence in the medical knowledge of physicians. This nevertheless is no excuse for the terrible showing just referred to. As mentioned before, there is no doubt that a major portion of the trouble is due to lack of drug standardization, and inasmuch as this lies with the manufacturer, who is in a large majority of cases the wholesale druggist, he is the person to whom we should direct our attention.

750 Driggs Ave.

ALBUMIN IN THE URINE OF AN APPARENTLY HEALTHY CHILD.[1]

BY

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New York City.

The finding of albumin in the urine necessarily gives us more or less concern when met in the ordinary febrile diseases. When found in children who are apparently well, perhaps too anemic to suit the parents, or under weight, or with a capricious appetite, or when examined for some mild condition like enuresis for example, it comes in the nature of a shock, and how much importance to put on such a discovery must I am sure have engaged your attention, as it has mine, on many occasions. That we are unable to positively assure ourselves or the child's parents, that an albuminuria will be only a transitory one, is of course true, and how to tell a parent of its presence without causing too much alarm, and at the same time not minimizing the condition too much in case it should remain permanent calls for an amount of tact which we do not all possess. That it requires some effort (catheterization) to obtain a specimen is the reason the urine in infants is so seldom examined, and while I believe the infant kidney is most elastic—as it were—and returns most readily to its normal condition after albuminuria due to hyperpyrexia—still in a certain (fortunately small) number of cases the albuminuria remains, and if the urine had not been examined, or the mother informed of the condition, the slight illness and the child comes with apparently a clean bill of health and we find albumin with or without casts.

[1]Read before the Metropolitan Medical Society, February, 1911.

Does albuminuria necessarily mean disease, and can we do anything to eliminate this albumin? I have in my practice many children who bring this question home to me, and discussion on this subject cannot but justify the writing of this paper.

Edwin D., three years old, never ill a day except some slight indigestion, which a dose of castor oil would set straight, is examined for enuresis and both albumin and hyaline casts found. The child is apparently perfectly well, presents no subjective symptoms—and I hesitated to tell the parents of the albumin which was found in each of four specimens but assured them as well as I could that its chief harm would be in making it difficult for him to take out life insurance.

Andrew G., four and a half years old. Ill at two years with severe intestinal attack. Temperature 103-105 for five days, during attack albumin and casts which disappeared the week following normal temperature. Ill again at three with attack simulating cerebro-spinal meningitis. Temperature steadily at 104-5 for a week during which time the urine was scanty and showed mild trace of albumin and an occasional hyaline cast, much less than in previous illness, and which entirely cleared up after several examinations within a fortnight following return to normal temperature. One year later examined preparatory to removal of adenoids and tonsils and an appreciable amount of albumin and hyaline casts are found.

Now this child is and always has been on the mildest diet. Gets fruit juices in abundance. No condiments, is well clad, hygiene perfect, has rosy cheeks, good appetite, bright and active and apparently in perfect condition. What can be done to remove this albumin?

These cases could be repeated many times. The importance is I believe sufficiently emphasized in them. Shall we continue to examine these patients at weekly or monthly intervals, and is there any way besides hygiene, diet, and increasing their hemoglobin—to rid them of their albumin?

17 W. 88th St.

CHEWING GUM AS A MOUTH CLEANSER.

BY

LE GRAND KERR, M. D.,

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One of the most trying problems in the infectious diseases of children particularly, is the one of keeping the buccal cavity reasonably clean. No matter how conscientious the nurse may be in cleansing the mouth with the various antiseptic solutions, the work is never satisfactorily accomplished. However, the importance of a clean mouth in the limitation or preventing of unpleasant complications cannot be overestimated. Many of the secondary infections which occur as a result of infectious disease in childhood occur because the mouth has not been kept clean.

The child naturally rebels against the cleansing process while it is very ill and therefore, if some more attractive and efficient way can be found to accomplish the same result, we ought to take advantage of it. The use of chewing gum seems to offer the best relief. It is attractive to the child and through its use at stated intervals the little patient is led to effectively do two things that are most important in keeping the mouth and tongue clean: (1) a stimulation of the flow of saliva, and (2) the beneficial movement of the tongue, which is a most efficient cleanser through its mechanical action alone.

This method has been tried for months by the writer in cases of typhoid fever, scarlet fever, measles and diphtheria and always with beneficial results.

A fresh piece of gum must be used every time and the old piece destroyed. The use of the gum need not, however, result in the absolute discontinuance of the other methods of cleansing which are commonly in vogue. Its use certainly should not create a false sense of security because although highly effective in its results, there should be instituted the same care and thoroughness of examination of the buccal cavity in all of the infectious diseases of childhood and this examination should always be an important part of the routine examination. The chewing of gum is only one of many things that may be done to keep the buccal cavity reasonably clean, but the writer has found that it is a most important one and a pleasant one for the child.

More recently we have made use of it following operations for the removal of the tonsils and adenoid vegetations and always with most pleasant results.

42 Gates Ave.

Free drainage from the uterus after delivery has often been prevented by an immediate operation for lacerated cervix, and this, in connection with an infection which is very apt to occur at the time of repair, has frequently resulted in severe sepsis. An ideal time to operate on a lacerated cervix is about two months after delivery. —*Ralph Waldo.*

A HANDY INSTRUMENT FOR OFFICE TITRATION WORK.

BY

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Early in 1907, I became very much interested in the study of urinary acidity and its relation to various disorders of metabolism and their manifestations. Circumstances were not always convenient for me to have access to a burette, especially when it was desirable to make a test at the bedside or away from my office. To obviate this difficulty I devised a graduated test tube which was called an acidimeter and sometime later described it in an article entitled "A New Instrument for the Estimation of the Urinary Acidity" which was published in the *New York Medical Journal* for January 5, 1909. After four years of experience with this tube it has undergone several modifications and its range of usefulness has been materially extended.

The apparently simple tube illustrated here may be used for the estimation for the urinary acidity, the estimation of the total ammonia in the urine, the determination of the various gastric acidities, the comparative estimation of indican in the urine, together with any other tests which might call for the use of a burette, a burette stand, a pipette, and titrating dish.

It has not been my idea to supplant the burette. The value of this instrument in laboratory work is far too evident, and for accuracy it cannot be excelled; but it is undeniably cumbersome, expensive, and not easily transported without considerable inconvenience. On the other hand, this acidimeter can be carried in the vest pocket or hand bag since it is only six and a half inches long and three-fourths of an inch in diameter and weighs only two ounces.

The technique for its use in the various estimations is a very simple matter. Any tyro can use it satisfactorily, as it requires no special skill.

THE ESTIMATION OF THE URINARY ACIDITY.

Fill the tube with the specimen to be examined until the lower edge of the meniscus reaches the 10 c. c. line. Add one drop of phenolphthalein indicator (a saturated solution of phenolphthalein in 50% alcohol) and then slowly add, directly from the reagent bottle (or if it is so desired with an ordinary medicine dropper) decinormal soda solution, inverting the tube after each addition, until a light pink color is produced. A few tests will enable one to do this very rapidly and without the delay of adding the reagent "drop by drop." The acidity may now be read off at the level of the fluid in the tube, which is graduated in



(REDUCED)

degrees. Each degree represents the amount of decinormal soda solution required to neutralize 100 c. c. of urine. If desired, the acidity may be expressed as percentage, so that any calculation which can be made from the findings obtained by making this estimation with a burette, can also be made from the figures read on the tube, as each ten degrees represents one cubic centimeter. For convenience the tube is graduated in fifths of a cubic centimeter.

THE URINARY AMMONIA INDEX.

The estimation of the urinary ammonia by a modification of the Malfatti-Rongese test is rendered a very quick and simple matter with this instrument. The procedure consists of obtaining the acidity of 10 c. c. of urine by the method given above. When the pink color just appears at the level of the fluid in the tube, then add two or three c. c. of neutral formalin—commercial formalin diluted with equal parts of water and to which a drop of phenolphthalein indicator has been added, together with sufficient alkali to make it faintly pink. The addition of the formalin immediately discharges the pink color which change is due to the liberation of certain acids. The level of the fluid in the tube is now carefully noted (it is best to add the formalin solution to some definite level on the tube as no definite amount of this reagent is required, save an excess) and more decinormal soda solution is slowly added until the pink color *just* returns. The amount of soda solution required to produce the second pink coloration—in cubic centimeters—multiplied by the factor .00068, gives us very closely the amount of ammonia present in 10 c. c. of urine. The percentage is obtained by multiplying by ten and, of course, the total ammonia in 24 hours by multiplying the amount of urine passed in 24 hours in cubic centimeters divided by ten.

APPROXIMATE INDICAN ESTIMATION.

The test for indican in the urine is always a comparative one. It is practically impossible to accurately estimate just how much of the blue coloring matter—indigo—may be present after a test has been made, but if it is possible to accurately compare the various specimens from the same individual or a series of specimens from different individuals it is easily understood that the test is of much more value than to know simply whether indican is present or not.

To accomplish this it is essential that definite amounts of the various reagents and urine are used each time, and if the acidimeter is used these amounts can be very quickly measured.

There are so many different tests for indican in general use that one hesitates to give any exact procedure, but this is the one usually followed in my office. I fill the tube to the first mark (2½ c. c.) with chloroform, urine is then added to the 10 c. c. mark and chemically pure hydrochloric acid to the 60 degree mark, making 2½ c. c. of chloroform, 7½ c. c. of urine, and 5 c. c. of hydrochloric acid. To this one or two drops of hydrogen peroxide are added and the whole mixture is shaken for a minute. The tube is allowed to stand a few minutes until the chloroform has settled and the amount of indican present is measured comparatively by the degree of coloration present in the chloroform. One can quickly compare tests in this way and it is to be hoped that some day an indican test-scale similar in idea to the hemoglobin test scales in general use, may be evolved and the results then placed in comparative figures instead of comparative colors.

THE GASTRIC ACIDITIES.

The estimation of the free hydrochloric acid of the gastric juice is accomplished in exactly the same manner as the estimation of the urinary acidity. If there happens to be a limited amount of fluid for examination, the tube may be filled to the 5 c. c. mark and diluted with an equal amount of water before the alkali solution is added. In this case the indicator consists of a mixture of a saturated aqueous solution of dimethyl and a saturated alcoholic solution of phenolphthalein. One or two drops of this indicator are added to the specimen for examination, and if free hydrochloric acid is present a cherry red color is produced. If no free hydrochloric acid is present the color remains yellow and the actual amount in the 10 c. c. of gastric juice (or 5 c. c. as the case may be) is then found by carefully adding decinormal soda solution until the cherry red color just disappears. The level of the fluid in the tube is now read and marked down, and more alkali slowly added until a pink color (due to the phenolpthalein indicator) just appears. The reading at the level of the fluid now gives the total acidity —the free hydrochloric acid and the combined hydrochloric acid. This reading is in cubic centimeters and to obtain the exact figures it is necessary to multiply the free HCl figure by 10 (by 20 if only 5 c. c. of gastric fluid were used at first) and then by a factor which has been found to be .00365. The resulting figure from this calculation represents the amount of HCl in grams per litre. Many investigators prefer to express the acidity in percentage or degrees—as read on the tube—in which case it is unnecessary to multiply by the above factor. The combined acidity is figured in exactly the same way.

When it is desired to estimate the total acidity of the gastric contents it is necessary to make a second test using as an indicator a 5% solution of alizarin and following out exactly the same method until the yellow color of the mixture has just changed to violet. The level of the fluid in the tube then indicates the total acidity (both the organic and inorganic acidity). Multiplied by 10 this is reduced to percentage—by 20 if only 5 c. c. of the specimen were orginally used.

There is no doubt that the use of this little tube will materially multiply the results of the work of any physician and for this very reason will do much to increase the interest in his patient. This little tube with its new and wider range of usefulness will, it is believed, serve to simplify laboratory estimations, bidding fair to entirely supersede the burette and accompanying paraphernalia in general office work, not because of its accuracy over the other and older methods, but because of its great simplicity and inexpensiveness.

60 West Randolph Street.

CHRONIC DACRYOCYSTITIS IN A CHILD.[1]

BY

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It will be necessary to give briefly the gross anatomy and physiology of the lachrymal apparatus, owing to the fact that in dacryocystitis these parts are involved.

The lachrymal apparatus consists of two parts, namely:

1. A secretory portion.
2. An excretory portion.

[1]Read before the American Medico-Pharmaceutical League, May 22nd, 1911.

The secretory portion consists of the lachrymal gland, and the excretory portion consists of the puncta, canaliculi sac and the nasal duct. The puncta are two minute openings and are the orifices of the canaliculi.

The canaliculi extend vertically for a short distance and then pass horizontally inward and empty into the lachrymal sac.

The lachrymal sac is placed in a groove formed by the lachrymal bone and the nasal process of the superior maxillary bone. It is covered in front by the internal torsal ligament and some fibres of the oribularis muscle.

The nasal duct passes downward in a canal formed by the superior maxillary, lachrymal and inferior turbinated bones and terminates below in the inferior meatus of the nose. The length varies from 15 to 25 m. m. The lachrymal secretion is slightly alkaline. Ordinarily, the lachrymal gland secretes just enough to moisten the eyeball which is lost by evaporation. The conveyance of tears from the conjunctiva to the lachrymal sac is effected by the act of winking.

Causes of Dacryocystitis:—Rhinitis, polyps, hypertrophies, ulcerations, caries. These conditions produce a swelling or cicatricial contraction of the mucous membrane of the nasal duct, and finally any obstruction.

Symptoms:—Epiphora, or excess of tears, which is usually increased by exposure to wind, smoke, or cold; fullness in the region of the lachrymal sac; pus escapes from the puncta, or into the nose upon pressure; inflammation of the lids, with blepharitis, or a crusty formation on the lid margins; gluing of the lids from excess secretion. A very important point to be remembered is that these conditions frequently, if not always, cause serious infections if not properly treated before any operations are undertaken upon the eye ball.

Treatment:—In slight cases, the excess tearing can be relieved by treating the nasal condition with medicinal agents, or in severe cases by operative procedure. The most common agents used are zinc sulphate; solution adrenalin chloride 1-1,000; saturated solution boric acid, two drops into lower lids every three hours. This solution gives some relief, but is not permanent. The yellow oxide of mercury, 1 gr. to 2 drms. of vaseline, thoroughly triturated and applied to the lids night and morning. Washing out the sac with hot salt solution has a very soothing effect, but the sac must previously be emptied by gentle massage from below upward.

The injection of argyrol into the sac, in my estimation is not without danger I have seen some severe cases of argyrosis resulting from the continued use of a five per cent. solution of argyrol. The lower punctum must be dilated before introducing the lachrymal syringe. Hot applications have a soothing effect and diminish the swelling and tenderness.

Should these measures produce poor results, the next course is dilatation with probes, Weber's or Bowman's either being used in graduated sizes. It is customary to slit the lower canaliculus preliminary to probing the duct. In rare cases, both the upper and lower canaliculi are slit, and the dividing tissue cut so as to produce an open cavity, which is kept open by packing. The disadvantage of this method is the difficulty regarding cleanliness, as the open space thus formed collects considerable dust, etc., the mucous membrane of the lids being a good nidus for germs. Often the stricture is cut with a lance knife, followed by prob-

ing. The introduction of leaden or silver stylus is also recommended by various writers.

The case I present to you this evening is a boy aged five. The symptoms were swelling, which extended over the left side of the face and orbital region. The eyelids on left side were edematous, and presented a crusty formation. A constant and annoying symptom was gluing of the lids. Epiphora, or excess of tears, was marked, and a murky discharge could be expressed from the lachrymal region upon pressure from below upward. The previous history was negative, as was the family history. The child had been treated by several oculists and had been probed. And here is a point I wish to emphasize. Children, and often adults, cannot have a probe passed every other day unless anesthetized each time.

Therefore, I proceeded as follows: The patient was properly prepared and etherized, and, having carefully moulded a hollow silver probe containing a stylet, the under canaliculi was slit and a sound passed into the canal, assuring me that no exostosis existed. I then introduced the hollow silver probe and withdrew the stylet, leaving the probe within the lachrymal canal. Care must be taken to have the sounds a proper length. If too long, an annoying symptom can be produced by the probes coming in contact with the ocular conjunctiva. Each, and in fact, every symptom has disappeared. The probe has remained in the canal over three months and up to the time of presenting this case, there has been no reason to hurry its removal and it can remain indefinitely, as drainage is perfect.

The more radical methods of treatment are:

1. Incision treatment of the walls of the sac.
2. Complete destruction of the sac.
3. Extirpation of the sac.

The limited allowance on this paper will enable me to give you but very briefly the steps in these operations on the lachrymal sac.

1. Incision treatment of the walls of the sac: Prepare the field as usual. Anesthetize with half of one per cent. cocaine solution hypodermatically, or a general anesthetic. Divide the canaliculus, pass a large sized Bowman's probe; then make an incision over the anterior surface of the sac, scrape the lining of the sac with a sharp curette, pack the wound with iodoform which is renewed daily, allowing the wound to close from below.

2. Complete destruction of the sac. The same steps are followed as in above operation, including the destruction of the mucous membrane lining the sac by galvano cautery, or the silver stick.

3. Extirpation of the sac. Prepare and anesthetize as in above cases. A curved incision is made just below the internal canthal ligament and passes forward along the orbital margin for about one inch. Carefully divide the skin and fascia until the lachrymal sac is exposed, separate the sac by blunt dissection, using care to retain the sac in one piece. After its removal, the canal is thoroughly curetted. Bleeding is very often profuse and is checked by adrenalin, retraction or compression. After thoroughly cleansing, the wound is sutured and a compression bandage is applied. Primary union usually results and little or no scar is visible.

In conclusion, the best results are attained by reducing the inflammation and introducing a hollow silver tube which is allowed to remain from four weeks to six months.

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ETIOLOGY AND DIAGNOSIS.

A New Sign of Paralysis.—Drs. Pierre Marie and Foix, says *The Hospital*, draw attention to a new sign observed by them in certain cases of paralysis of organic origin. It is produced by a slow and progressive, but forced, flexion of the toes, avoiding at the same time a forced extension of the foot. When this is carried out in a patient affected with paralysis it excites a reflex movement of the lower limb, consisting of flexion of all three segments of the limb, together with internal rotation and adduction of the foot. This movement is slow and regular, and the limb remains in the final position for a certain length of time after cessation of flexion of the toes. Transverse pressure of the foot produces the same result, but it may only induce a contraction of the leg. The authors have observed this sign in almost all cases of spastic paralysis, of hemiplegia, and of the spastic familiar diseases. In hemiplegia it is as constant and early a symptom as the sign of Babinski. The reflex movement is closely analogous in its form to that described by Claude in hemiplegics; but the authors have not been able to attach to it the same prognostic significance.

Mixed Infection in Pulmonary Tuberculosis.[1] Pettitt considers the subject of mixed infection in tuberculosis, and says in concluding his interesting article:

1. Mixed infection is of great importance in pulmonary tuberculosis.
2. The mixed infection is not a local one confined to the lung, but is a general blood infection.
3. This general blood infection is not a terminal septicemia, but can be found in all stages of the disease, showing all degrees of activity many months before death or ultimate recovery.
4. The percentage of positive blood-cultures increases in direct ratio with the progression of the disease and the activity of the condition.
5. Blood-cultures in pulmonary tuberculosis are of value in the diagnosis of mixed infection, giving the only really exact information concerning this condition.
6. Vaccines made from organisms isolated from the blood appear to be of little value in the treatment of tuberculosis as shown by the temperature curve.
7. Vaccines made from organisms isolated from the sputum are of marked value in the treatment of tuberculosis as shown by the temperature curve.
8. Active immunization against mixed infection seems to protect against hemorrhage.

[1]R. W. Pettitt, M. D., *Illinois Med. Jour.*, Oct., 1911.

Differential Diagnosis of the Acute Spinal Affections of Childhood.[1]—Mettler considers the subject of poliomyelitis and points out the clinical phenomena of certain affections that offer difficulty in differential diagnosis. For instance, in *hemorrhage of the cord* and *acute myelitis* there are very prominent sensory symptoms as a rule. The reflexes are exaggerated (except when the damage is in the lumbar region). The sphincters are decidedly involved and bed-sores tend to appear early. Paraplegia is the typical form of paralysis. Hemorrhage, of course, is sudden and does not occur often without trauma. Myelitis is slower in its onset and longer in duration. Its paralysis does not recede as in acute poliomyelitis and remain permanently in particular muscles. In this connection, however, it must not be forgotten that the earliest symptoms of infantile palsy are quite indicative of a transverse myelitis even to the weakening of the sphincters.

A point well noted by Oppenheim is that *acute rachitis*, *coxitis* and *osteomyelitis* are all to be distinguished from the early stage of poliomyelitis by the resistance which the child offers in the former when passive movement is attempted. The little patient contracts and holds his muscles in a state of rigidity to avoid the pain of movement in the former, while in the latter he merely complains of the pain.

Syphilitic pseudoparalysis can now be established diagnostically by a blood test. Moreover, there are other marked indications of the specific infection beside the character and distribution of its paralyses.

Epidemic cerebral palsy is sufficiently infrequent to warrant an attempt at a differential diagnosis between it as a mere phase of epidemic acute poliomyelitis and the ordinary type. The latter comes on more abruptly as a rule, is more distinctly hemiplegic in character and distribution, and is accompanied by a positive rigidity and exaltation of the reflexes. There is mental depression of a profound sort, and stupor, while a series of facial or Jacksonian convulsions may occur. Of course, all of these manifestations may be seen in a rare case of epidemic poliomyelitis because it is now acknowledged that the same infection attacks the brain that produces the spinal form of the palsy. And yet in the epidemic disease, even when of the cerebral type, the paralysis will sometimes appear in this or that muscle to indicate that the lower motor neurone has been attacked along with the cortical neurone, thus demonstrating that the trouble is not so definitely hemiplegic in character and distribution. In other words, the ordinary cerebral palsies are more or less decidedly and only cerebral in their clinical appearances, whereas the epidemic cerebral palsies have associated with them some evidence of spinal or neuritic involvement also. The pathogenesis of epidemic infantile palsy, even of the cerebral

[1]L. Harrison Mettler, M. D., *Illinois Med. Jour.*, Oct., 1911.

type, is a much more diffuse process than is that which lies behind the ordinary cerebral palsies.

The so-called *birth palsies*, though liable to cause some confusion by reason of the paralysis being of the flaccid degenerative type, can usually be differentiated on the ground that they occur only in the arm and are plainly more or less the result of trauma.

Progressive muscular atrophy rarely occurs in children. Furthermore, it is very gradual in its onset, slow and steady in its march and is devoid of all febrile and sensory phenomena.

Peripheral neuritis, and especially *multiple neuritis*, are exceedingly rare in childhood. Their onset is gradual and they are marked by pain and tenderness with slight or no febrile movement. When fever is present it lasts longer than the fever of poliomyelitis. There is a history of trauma, of metallic intoxication, of syphilis or general cachexia. The paralysis is slower in coming on than in poliomyelitis, and it assumes more of the bilateral type in multiple neuritis and of the monoplegic type in simple neuritis. The atrophy is not quite so pronounced and it is more tardy in appearing than it is in the spinal trouble. Moreover, there is not the same implication of the skin and nails in the poliomyelitis and the latter is not accompanied by such vasomotor disturbances as edema. And yet it must be frankly admitted that often the etiology alone distinguishes for the practitioner acute anterior poliomyelitis from general neuritis and that when both sets of symptoms happen to depend upon the same infectious agent, the differentiation clinically between the two maladies becomes almost impossible.

The Causes of Epistaxis in Childhood.[1]—The causes of epistaxis are quite numerous, says Le Grand Kerr, and may be divided into those which are general and those which are local.

General Causes.—All conditions which favor congestion may influence the occurrence of epistaxis. Then there are various blood conditions which favor it, as hemophilia, purpura, scurvy, anemia, chlorosis, leukemia, syphilis and rheumatism.

In an otherwise healthy child, if epistaxis repeatedly occurs and the cause is undiscoverable, the strong probability is that it is dependent upon rheumatism. Very commonly a carefully taken history will reveal the fact that the child has been the subject of indefinite pain which has not been severe enough to attract attention. An examination of the urine will at once reveal its turbidity and the presence of abundant uric acid salts. The further examination may reveal some chronic cardiac disease which has escaped attention up to this time.

Epistaxis may occur as an accompaniment of many acute diseases, and especially those of an infectious nature, but in this connection it has no special significance. During the course of nasal diphtheria it is usually of late occurrence, but, late as it may be, it is frequently the first symptom to attract attention to the situation of the membrane in the nose.

It is not uncommon for epistaxis to occur in cardiac disease, and especially under those conditions in which there is increased arterial tension or a hindered return flow of the blood. If the bleeding occurs immediately after a severe coughing spell, it is strongly indicative of pertussis.

When the cause of an epistaxis has been systematically searched for, and still remains obscure, it should arouse suspicion of a weakened heart action from some cause, probably organic. Periodical epistaxis is not uncommon, and in nearly every instance may be traced to malaria.

There seems to be a strong predisposition in some children to the occurrence of nose-bleed; the slightest causes are sufficient to start in them a profuse epistaxis, despite the fact that they remain in perfect health, and that there is no evidence of any hemorrhagic tendency which is hereditary.

Local Causes.—Under local causes traumatism is by far the most common, such as falls and blows upon the nose. In some children on the cartilaginous part of the septum there is a small group of thin-walled veins, and a blow or picking at this part of the nose may readily excite hemorrhage. Under certain conditions, as congestion or rheumatism, even the blowing of the nose may cause epistaxis, the blood coming from this point.

Aside from what is strictly trauma, the presence of a foreign body in the nose may excite profuse hemorrhage. Some children have a strong disposition to push small articles into their nostrils. During acute rhinitis a small amount of nose-bleed may occur, but it is not frequent.

Other factors in the causation are ulcerations, varicosities, and severe catarrhal inflammations. New growths may be accompanied by epistaxis. Violent exercise and excessive study have been assigned as causes of nose-bleed, but they are active only in children who are generally debilitated.

[1]Le Grand Kerr, M. D., *Am. Jour. Obstet.*, Oct., 1911.

Determination of Tubercle Bacilli in Sputum.[1]—The difficulty of detecting tubercle bacilli in the sputa of certain patients known to be suffering from pulmonary tuberculosis is familiar to all, and not a few laboratory methods of concentrating the bacilli from a bulk of sputum have been advocated from time to time. Two of these seem to be of particular value—namely, the antiformin method of Uhlenhuth and Xylander, and the chloroform method of Loeffler.

Antiformin consists of a mixture of equal parts of sodium hypochlorite and sodium hy-

[1]*The Hospital*, May 6, 1911.

drate, specially prepared; the sputum thrown into a 15 per cent. solution of this, having been rendered homogeneous, is centrifugalised in a machine revolving at a high rate; the supernatant fluid having then been poured off, the deposit is shaken up with physiological salt solution and then centrifugalised again. The excess of salt solution having been poured off, the concentrated residue is utilized for the making of films, which are dried, fixed, and stained by Ziehl-Neelsen method in the ordinary way. The process occupies a relatively short time, and it is efficacious.

This is a modification of the antiformin method, and it is carried out as follows: A quantity of sputum is mixed with an equal amount of 50 per cent. antiformin, and the mixture is heated until it has become clear and liquid. Ten c. c. of the latter are then pipetted off into a separate receiver, and 5 c. c. of a 10 per cent. solution of chloroform in alcohol are added. This mixture is shaken well together, and then centrifugalised at a high rate for a quarter of an hour. The chloroform will then be found to be at the bottom of the tube, separated from the supernatant fluid by an opaque line of variable thickness. As much as possible of the superficial fluid is removed with a pipette, and the opaque layer on the surface of the chloroform carefully removed on to a slide upon which a film is made, dried, fixed, and stained in the ordinary way.

TREATMENT.

Antityphoid Inoculations.[1]—According to the *Medical Record*, the officers and men alike of the entire army of the United States, 76,000 in all, are being inoculated against typhoid fever —that is, all under forty-five years of age. The Secretary of War has submitted himself to vaccination, setting the example. Heretofore it has been optional for an army officer or private whether he would thus be protected; and on that basis 17,000 were inoculated. But now all must submit, by order of Major-General Leonard Wood. Major Russel of the Army Medical School in Washington has prepared the "typhoid prophylactic," which is being distributed to the various forts, posts, and other military communities throughout the United States and its possessions. In something like a few weeks the whole army is expected to be inoculated, and will certainly within a fortnight thereafter, be immune to typhoid fever. Very little if any inconvenience has been felt; the vaccination is done precisely as against smallpox, in the left forearm, for all the soldiers. In civil life the left-handed man would be inoculated in the right forearm. The experience has been that the soldier loses not a single day's duty, and does not go to bed. He is watched carefully for twenty days and is then declared a typhoid immune. Of course, those who have unmistakably had the disease are not vaccinated. Whatever discomfort there is never lasts beyond forty-eight hours, and it is in general less than that occasioned by vaccinations against smallpox. Our army is by these measures being rid of typhoid fever, up to recent times a far greater destroyer of soldiers than the enemy's sword and missiles. For example, during the Spanish war two divisions of the Seventh Army Corps encamped at the time in Florida were submitted to an experiment; the one numbered 10,759 men, the other 12,801. The camp conditions as to sanitation were exactly alike for these two divisions, and the water for both was obtained from artesian wells. None of the officers or men in the smaller division had been inoculated with the typhoid vaccine; it had 2,693 cases and 248 deaths from this disease. In the larger division a majority were inoculated, and it had but a single case of typhoid fever and no death. Except as just stated, little was done in our Spanish war, so that our troops then developed 20,738 typhoid cases, while above four-fifths of our mortality among officers and men was by reason of this disease. During the Boer war the British had 31,000 cases of typhoid fever. The typhoid fever rate in the German army was cut down one-half by vaccinating a portion of the troops in Southwestern Africa in the campaigns against the Hereros in 1904 and 1907. In India in 1908, among 12,000 English troops, one-half were vaccinated; the remaining 6,000, under like conditions, remained unvaccinated; seven times as many among the latter contracted typhoid fever, and eleven times as many died of it.

Lieut.-Col. J. R. Kean of the Army Medical Corps observed, anent the recent application of this typhoid prophylaxis to our 16,000 troops in Texas, that although this force had been for more than three months exposed to heat, dust, mud flies, and all the other vicissitudes of camp life, only one case of typhoid fever developed up to June last. "The medical authorities of the army," he said, "are much elated at this great feat of preventive medicine, which they hope will bring into common use a procedure of as great sanitary importance to the American people as was the discovery of the method of preventing yellow fever."

Since such immunity against typhoid is obtainable in military camps it ought to be, as Col. Kean suggests in the sentence above quoted, quite as capable of achievement in civil life—especially in large communities. Every urban typhoid epidemic has been succeeded by a secondary epidemic, evolved naturally from it. The secondary phenomena might easily be prevented by prompt inoculation of all those living in and about the affected region. The private practitioner should have at his disposal antityphoid vaccine, quite as he now has this prophylactic means against smallpox; and he should have his patients submit to the use of the former quite as is done now, as a matter of course, in regard to smallpox. If the inoculations are made in the late afternoon it is very likely that any untoward manifestations

[1]Editorial, *Med. Record*, Oct. 14, 1911.

will have disappeared by the following noon. These inoculations should especially be submitted to by traveling business men who may in the most subtle and inscrutable ways be subjected to this ingestion infection. Typhoid fever is peculiarly a disease of youth and early manhood and womanhood; and it might not be inadvisable for these young men and women who go to college and boarding school to submit to this preventive measure before leaving home. Tourists, vacationists, may not only themselves contract the disease, but, even of more importance from the communal viewpoint, they may become typhoid carriers, introducing the bacillus into regions hitherto exempt. All such should be inoculated. Physicians themselves, nurses, orderlies and hospital helpers should all submit as a matter of course. It is considered that the protection is effective for two years, and that the one inoculation will afford much, though not complete, protection for many years more, perhaps through the remainder of the individual's life.

Drug Addiction and Its Relation to Acute Diseases.[1]—Pettey, in the *New York Medical Journal*, remarks that one of the earliest and most noticeable effects of morphine is an arrest of intestinal motion. In a very short time from the administration of a full dose of morphine, peristalsis is completely arrested and remains absent for a period varying from four to twelve hours, depending upon the size of the dose.

In drug habitues these doses are repeated at frequent intervals, and peristalsis is suspended during a greater part of each twenty-four hours. Peristalsis is essential to discharge of waste from the bowel. A motionless canal means a clogged canal. The eliminating organs may be likened to a sewer system with the intestinal canal as the main and the ducts of the excreting glands as laterals.

Since they can not discharge their waste into the main, it is retained or forced back into the system. The resorption of this waste from the clogged or sluggish excreting stream is the mechanism by which the systems of drug users become toxic. When this semiparalyzed condition of the intestinal canal is overcome and active motility established in its stead, the accumulated waste is promptly discharged.

The fact that, when active peristalsis is induced and maintained, very little if any larger quantities of glandular stimulants are required to secure free movements from the bowel of a drug habitue than from one who is not using a drug, confirms me in the belief that the functional activity, per se, of the secreting and the excreting glands is not materially reduced, but that the failure of excretion arises almost exclusively from suspension of the motor function of the bowel.

Fortunately we have one drug in our armamentarium which has sufficient power to bring about free intestinal motion notwithstanding the restraining effects of the opiate, provided it is given in sufficient dose and at the proper time. That drug is strychnine. Ordinary medical doses, however, are not sufficient. In estimating the quantity of strychnine required in any given case, age, weight, and physique of the patient must be taken into consideration, as well as the quantity of morphine, the paralyzing effects of which we are seeking to overcome. Young persons are more susceptible to strychnine than older ones. The short, compactly built, in whom a fair degree of muscular tone is present, do not require as much as the tall, loose-jointed, with flabby, atonic tissues, but the relation between the time of giving the strychnine and the marphine, the effects of which we are seeking to neutralize, is equally important with the size of the dose.

Strychnine excites peristalsis by direct stimulation of the motor centres. Motor waves thus induced extend to all the structures which would receive them if the centres were acting normally or without artificial stimulation. The arrest of intestinal motion by morphine is most marked during the primary effects of each dose, but as the primary effects of the drug wear away, peristalsis gradually becomes reestablished. Drug users, as a rule, take their drug only during the day or from time of rising in the morning until bedtime, say from 8 a. m. to 10 p. m. During these hours the system is kept constantly under the primary effects of the drug and intestinal motion is very much restricted, but during the period between 10 p. m. and 8 a. m. the effects of the day's dosing wear away and peristalsis becomes fairly active. It is during the latter part of this period that the excretory organs do the principal part of their work.

In order to secure prompt action of purgatives, advantage must be taken of this state of affairs. The remedies must also be so compounded and be given at such times as to have the acme of their effects, both as motor and secretory stimulants, occur during that part of this period when the system is least under the restraining influence of the opiate. To do this, begin with the purgative course at 2 p. m., and give, on an empty stomach, a dose every two hours until 10 p. m. For an average patient, taking ten grains or more of morphine a day, the following will be found effective:

℞ Calomel ....grains x;
Extract of cascara sagrada..grains x;
Podophyllin ....grain i;
Ipecac ....grain i;
Atropine sulphate .....grain 1/50;
Strychnine nitrate .....grain ¼.

M. Ft. Caps. No. 5. Sig.: One at 2, 4, 6, 8, and 10 p. m.

It will be noticed that these capsules contain one-twentieth grain of strychnine each, and that one is to be given every two hours until five such doses are given, making one-quarter grain of strychnine in eight hours. These would be excessive doses for one not under the influence of an opiate, but it must be re-

[1]Geo. E. Pettey, M. D., *New York Med. Jour.*, Sept. 9, 1911.

membered that morphine opposes strychnine in almost all its range of action and that we are seeking to overcome its paralyzing action on the motor function of the bowel and unless a quantity sufficient to do this is given, the secretory stimulants will simply stir up a storm in the upper part of the intestinal canal, accompanied by nausea, vomiting, and other distress, but no bowel actions will occur. It is more than likely that this storm will have to be allayed by an increased dose of the opiate.

During the time these purgative capsules are being given the patient should have his usual dose of morphine, but none must be given from the time of giving the last purgative capsule until free evacuations have been obtained. The physician should take charge of the patient's drug supply at the time of beginning the purgative course and control it from that time on. If left to him, he will take a dose at an inopportune time and thus delay or prevent the action of the purgative.

The Treatment of Miscarriage.[1]—Young and Williams conclude their paper as follows:

1. Spontaneous emptying of the uterus takes place in but about 13.2 per cent. of all miscarriages.

2. The likelihood of a miscarriage to complete itself increases with the duration of pregnancy.

3. When it becomes necessary to use artificial means to complete the miscarriage, the finger followed by the curette in later miscarriages, and of the curette alone in the earlier months of pregnancy, has given uniformly satisfactory results at the Boston City Hospital.

4. Experience has shown that where the cervix is extremely rigid it is better to introduce the curette and break up the fetus and placenta and remove them piecemeal than to attempt to dilate the cervix sufficiently to introduce the finger.

5. Packing the vagina and lower segment of the uterus is an unsatisfactory and often unsuccessful method of emptying the uterus. No success whatever was obtained in treating incomplete miscarriages in this way.

6. Packing is, however, of great value in two classes of cases: First, in exsanguinated patients, to stop the hemorrhage and give the woman a chance to recover somewhat from the loss of blood before emptying the uterus. Second, when the cervix is very rigid, a tight cervical pack for twenty-four hours will soften it so that dilatation may be attempted with safety.

7. The results of artificial methods are as good, but not better than where nature has succeeded in emptying the uterus.

8. Artificial methods are necessary in a majority of cases, however, simply because nature has failed.

9. In infected cases the essential thing is to get rid of the infectious material by emptying the uterus, the particular method employed making little difference.

10. The later in pregnancy miscarriage occurs the smaller the liability to become infected, but the greater the likelihood of devel oping grave septic complications if infection takes place.

11. The mortality is practically the same at all periods of pregnancy.

12. Induced abortions have a greater mortality than accidental. The mortality of patients admitted to the hospital after criminal abortions was 10 per cent.

[1]Drs. Young and Williams, *Boston Med. and Surg. Jour.*, June 22, 1911.

The Treatment of Headache in Women.[1]—Severe headache in a woman, says Webb, in the absence of other obvious symptoms, calls for a thorough physical examination. The writer would consider possible diagnoses in the following order:

1. The eyes should be examined by the physician, if skillful in the use of the ophthalmoscope, otherwise by an oculist. Hemianopsia, or other evidences of intracranial pressure, point to brain tumor. Treatment, palliative—surgically so, in some cases.

2. Severe astigmatism or marked heterophoria call for the services of a competent oculist.

3. The routine physical examination should include a blood examination with differential count, if the general appearance indicates anemia. Unless of the pernicious type, it merely suggests that the underlying cause should be sought for. If this is not found, direct and vigorous treatment by iron, arsenic, sunlight, elimination, rest, and good food may relieve the headache promptly.

4. Malignant growths should be searched for, adding to physical inspection careful clinical examination of the blood. Two cases of carcinoma—one of the uterus, and one of the liver—in which headache of great intensity was the first, and for a time the only symptom, have come to the writer's attention. In neither case was malignancy suspected; nor was a possible intracranial metastasis ruled out by autopsy in either case. Treatment would be surgical or palliative.

5. Severe headache is *frequently* a uremic symptom. All but the later stages of nephritis are notoriously apt to escape detection. The patient's blood pressure should be taken, the heart sounds studied, the condition of the arteries—temporal, radial, axillary, and inguinal —noted. The urine should be examined several times, and not merely for casts, albumin and sugar. The twenty-four-hour quantity should be ascertained, the average specific gravity from several specimens noted, as well as the acidity, the amount of indican (by quantitative test), and that of acetone. Treatment (if nephritis exists) consists of elimination by

[1]M. L. Webb, M. D., *New York Med. Jour.*, Oct. 14, 1911.

hot packs, laxatives, saline enemata, electric light cabinet baths, water freely by the stomach, and purin free diet, limited in quantity.

6. Diabetes would be revealed by the foregoing uranalysis and would call for appropriate treatment. Here limiting the food in quantity is quite as important as prescribing its character.

7. Should careful uranalysis indicate neither renal insufficiency nor diabetes, but show a high degree of acidity, or the presence of indican in significant amount (or both) autointoxication from the intestinal tract may be postulated, and vigorously combatted. The writer uses initial doses of castor oil followed by phenolphthalein. The diet should be not only purin free, approaching as nearly as possible the "rice and fruit" type, but strictly limited in amount. Hydrotherapy is also most useful here.

8. If so far results are negative, notice the patient's general appearance, inspecting especially the conjunctiva and skin for signs of poor elimination; elicit a history, if such exists, of constipation, of excessive meat eating, or of drinking insufficient water; ask whether previous attacks of asthma, hay fever, eczema, sciatica, or other neuralgias, rheumatism, insomnia, mental depression or irritability have occurred. These symptoms suggest a marked tendency to a toxic condition. Treatment as in No. 7. The writer has had the satisfaction of seeing more than one patient delivered from frequent and intense headaches merely by learning to drink sufficient water. Severe toxemia not infrequently exists, and produces serious symptoms, to which, with our present clinical methods of study, we are unable to assign a cause, though we know logically that such must exist. This condition may be treated empirically and satisfactory results will usually be obtained.

Treatment of Diabetes Mellitus.[1]—Hodgson gives the following points which he thinks are essential to the successful treatment of diabetes mellitus. 1. To impress on the patient that after his apparent recovery, continued care in eating is essential to continued health. 2. To dispense, as a general thing, with such drugs as codeine and arsenic and to make the patient rely practically entirely on the diet and hygiene. 3. To insist on the restriction of the quantity of food just as much as of the kind. 4. To overcome constipation by the use of castor oil and olive oil or by the use of a mixture of these two with glycerin. 5. To insist that the food must be thoroughly masticated. 6. To restrict carbohydrates at the outset to the smallest possible amount consistent with safety. 7. To add starches gradually in but one form rather than in several until the point of tolerance has been reached. 8. To eliminate from the dietary those articles of food that have been found to be difficult of digestion, even in health, though their starch content may not be objectionable for a diabetic. 9. Above all, to impress the patient with the fact that his disease is essentially the result of vicious dietetic habits and that it is useless for him to expect any favorable results so long as the habit is persisted in.

[1]A. J. Hodgson, M. D., *Jour. A. M. A.*, Oct. 7, 1911.

Treatment of Basedow's Disease.[1]—Basedow's disease is so well known that it is hardly necessary to give a description of it. It is characterized by the development of thyroiditis in a person up to that time free from all tendency to goitre. This thyroiditis is accompanied by exophthalmia, trembling tachycardia, and a chain of toxic troubles, as diarrhea, vomiting and psychical phenomena. These symptoms frequently make their appearance suddenly, following great mental or nervous emotion, but, says Dr. Marcille, what is specially worthy of remark is the existence of general infection (typhoid fever, eruptive fevers, articular rheumatism), which frequently precede the thyroiditis.

As regards the individual signs and symptoms, goitre is always constant. It is generally small, diffuse, involving both lobes and the isthmus; its vascular character is perceived by palpation.

The cardiac troubles are characterized by tachycardia and a decrease of vascular tension. This cardiac trouble is commonly supposed to be due to a toxic action of the thyroid secretion, as too abundant or modified.

The ocular phenomena are at the beginning but slightly marked; the eyeballs become only slightly prominent under the influence of emotion or effort. But finally, exophthalmia sets in definitely, and progresses in some cases so as to render closing of the eyelids impossible.

Thyroid intoxication modifies the composition of the blood. Such patients are generally pale, anemic, complain of profuse sweats, vomiting, while general wasting is frequently observed.

The treatment of Basedow's disease is either medical or surgical.

In France, up to late years, everyone considered the treatment of exophthalmic goitre as belonging exclusively to the domain of medicine. Abroad (Germany, Switzerland, America) the disease was, on the contrary, treated surgically.

The medical treatment consisted in quinine (Lancereaux), salicylate of soda (where the thyroiditis was supposed to be due to rheumatism).

Opotherapy (thyroid), after being at one time very popular, is now almost abandoned. The same might be said of iodine, which was found to aggravate a certain number of cases. Radiotherapy had its partisans, but failures were numerous. About the best treatment at present is the serum of Mobius, hemato-thyroidine, a teaspoonful twice a day for ten days, followed

[1]*Med. Press and Circular*, Sept. 13, 1911.

by two grains three times a day of powdered hypophise (pituitary gland) and faradisation of the goitre.

If these various agents are not attended with satisfactory results, the idea of surgical treatment should be entertained.

As regards the methods utilized by surgeons, two currents of opinion exist. Certain surgeons consider that the hyperfunction of the sympathetic plays the chief *rôle;* others incriminate the secretion of the thyroid gland.

Those who attribute to the sympathetic the accidents of Basedow's disease propose the ablation of the cervical sympathetic. It was Jaboulay who practiced the first operation on the cervical sympathetic in 1896. The method was adopted by Jonnesco abroad, but the operation did not find much favor. It is thus that Kocher, who operated on over 400 cases, performed but three times the ablation of the sympathetic.

In England and America there was also but little enthusiasm for this method. In France the tendency is not much more favorable. Lenormant, in his report read at last year's Surgical Congress, said the results of the operation on the sympathetic were less constant than those of thyroidectomy. However, the Lyons school (Jaboulay) remains faithful to this method, and has lately published an important statistic of thirty-one cases followed up by Jaboulay himself, the cure persisting twelve and fourteen years after the ablation of the sympathetic ganglion.

The second opinion, entertained by the majority of surgeons, is that attributing the lesions of Basedow's disease to the thyroidian secretion. Whether the secretion be vitiated or too abundant is not the point; the important fact is that this secretion is the cause of all the trouble.

The surest method in such a case is the suppression of the thyroid gland, but the accidents provoked by total extirpation are too well known for it to be proposed. Hence, thyroidectomies are always partial. But there remains an important point to solve, that of knowing what quantity of the thyroid body can be removed without danger.

Some say that ablation of the two superior horns is sufficient, others prefer removing one of the lobes, while others—bolder—leave but half a lobe. This latter method, while being very efficacious, is dangerous, for if the small portion left became necrosed the patient would inevitably be exposed to post-operatory myxedema, the gravity of which is well known.

Another preoccupation guides all the surgeons who adopt thyroidectomy.

Since the physiological importance of the parathyroid ganglions has been understood, the wounding and, *a fortiori*, the extirpation of these glands in the course of the operation must be avoided.

On the results of these operations, a large number of statistics of different origin have been recently published by Alamartine, of Lyons.

The statistic of Kronlein furnished 90 per cent. of definite cures, that of Kocher 83 per cent., Kummel 72 per cent., Gaire 16 per cent. and 66 per cent. much improved.

It may be seen by the above that the results are very encouraging.

In successful cases, the first symptom improved is the tachycardia; the other symptoms improve progressively but slowly, but two of them have a tendency to persist—trembling and exophthalmia.

Relapse occurred in about 10 per cent. of the cases above mentioned.

The conclusions of Dr. Marcille are as follows: Every case of Basedow's disease should be treated at first medically. If the symptoms did not yield rapidly to the medical treatment, no more time should be lost, as the prognosis of the surgical treatment is the more favorable, as the malady is of more recent date.

The operation consists in ablation of one of the lobes of the thyroid gland, preceded by the ligature of one or two arteries.

The Modern Management of Wounds.[1]—It is a far cry from the surgery of the barber and the day of boiling oil to the modern treatment of wounds. One cannot look back on the crudities and tortures of early times and then turn to the simple methods that have been accepted as the last word in surgical technique without wondering how our predecessors could have traveled so far afield. The anatomy and physiology of the human body were the same that they are today, and pathologic processes have assuredly undergone no change. Strange indeed that facts so fundamental, so protean in their aspects should have been overlooked, and such bizarre and ill-founded ideas accepted as scientific truths. What must the surgeon of those early days thought of the results he actually obtained? What explanations must he have given, what excuses must he have made when things went wrong? For, in spite of the statements that are so frequently made to the effect that the work of the pioneer surgeons were equal or superior to that of modern operators, a critical study of history shows just the reverse. To tell it exactly as it was, the results of early surgery with all its errors and false premises were execrable. They could not be otherwise.

But the wonderment that is honestly felt on looking back at the failure of early observers to grasp what should have been so patent, only makes more keen the satisfaction that comes from the efficiency of present day methods. Indifferent or bad results no longer pass muster. Today, instead of being looked upon as dispensations of Providence, regretful to be sure but quite unavoidable, they are known at once to be attributable to a definite cause, and to be corrected or prevented accordingly. What follows? A careful painstaking investigation is made at

[1] *Index-Abstract of Surgical Technique*, Sept., 1911.

once of the entire situation and when the weak link in the chain is found, ways and means are promptly devised for strengthening the old link, or forging a new one, for future work of a similar character. This is the spirit that has brought the modern treatment of wounds to its present state of efficiency, the spirit of using bad results to point the way to better ones. Such a spirit could not fail to achieve success, and wounds as a direct result were never so successfully managed as they are today.

Granting this to be so, the question naturally follows, what are the main factors in the successes so uniformly obtained today in the scientific management of wounds? Primarily and principally, the full conservation of the natural forces of the tissues has laid the foundation for success. It took the surgeon a long time to realize that Nature must be served, that the greatest stumbling block in the way of perfect repair was artificial or meddlesome methods. When this salient fact was fully understood, a new epoch in the treatment of wounds was straightway inaugurated. Henceforth the natural forces of repair were given full sway with every effort of the surgeon directed toward preserving and protecting tissue activity instead of supplanting it, as formerly was too often the case.

A scheme of treatment based on these rational ideas has developed almost automatically, the main details of which for accidental wounds are the following: cleansing the wound, especially the skin; removal of adventitious fragments; ligation of arteries; bringing the wound surfaces together and holding them so by appropriate sutures; and finally protecting the wound area by proper dressings until healing has taken place. The management of an elective or surgical wound imposes preliminary decision as to its location, direction and size; otherwise the general order of treatment is no different from that essential to the successful management of accidental wounds.

A word as to the several details outlined will not be amiss for it will emphasize the paramount importance of safeguarding from first to last the natural forces of repair. *First, as to cleansing a wound.* Here the whole object is to reduce the agencies of infection to the point where the natural protective forces of the tissues can become effective. The day is hardly passed that witnessed the routine use of the most powerful antiseptics. In destroying any infective organisms that were present, however, these antiseptics all too often at the same time so injured the delicate tissues of a wound that their reparative powers were seriously impaired or entirely removed. The capacity for effecting union and healing was lost, and with the natural defensive forces also reduced, the tissues fell easy prey to the simplest and mildest forms of infection. It has not been unusual, therefore, for powerful antiseptics to increase tissue susceptibility to a point where simple organisms could produce as violent reaction, and effect as great damage as the most virulent and destructive. Fortunately the danger of the routine employment of antiseptics was soon recognized and it was seen that the ideal procedure was to remove all possible infective material by means that would conserve tissue activity—not impair it. Gentle washing with simple saline solutions was found eminently effective, and thus the principles of surgical cleanliness were established, based on the attainment of safe rather than absolute conditions, the conservation of tissue activity rather than the unwise and indiscriminate use of antiseptics, and a constant recognition of the fact that surgical means are always subordinate to surgical results.

Second, as to removal of adventitious fragments. Experience has shown the importance of carefully trimming away all pieces of tissue in lacerated wounds.. These are almost always so injured and so imperfectly nourished that if allowed to remain in a wound they are sure to die and induce infection or seriously retard the healing process. The wisest course is to make the wound surfaces as smooth and even as possible so that when brought in apposition they come together closely without the formation of cavities or air spaces.

Third, as to the ligation of arteries. In accidental wounds it is a safe rule to ligate all spurting vessels that continue to bleed after an artery clamp has been applied and removed. In tying an artery in a lacerated or incised wound that is later to be sutured, it should be remembered that the ligation will rarely be needed beyond forty-eight hours at the most. Consequently, the smallest possible strand of catgut that will produce constriction of the arterial coats and obliterate the lumen should be used. Great care should be taken not to include any more of the surrounding tissues than is possible and not to tie too tight. Neglect of these simple precautions is very apt to lead to cutting through of the arterial coats with all the dangers of secondary hemorrhage, or give rise to tissue necrosis and the formation of a small slough that will, if it does nothing worse, greatly embarrass the healing process.

Fourth, as to coaptation and suturing. With the utmost gentleness the wound surfaces should be brought together and held so with the least possible tension. The sutures employed should be of chromicized catgut because of the superior advantages of this material over all other. They should be of appropriate resistance and each strand should be the smallest that can be safely used for the work in hand. In fact, if conditions call for greater strength it is usually wiser to use two small strands instead of one large one. The reason will be obvious, for the small strands impose less burden on the absorptive powers of the tissues, and they are much less apt to produce irritation. It goes without saying that the utmost skill should be called into play in suturing. Hardly any step in the whole treatment of a wound shows so plainly the time and effort expended. Excessive constriction should always be painstakingly avoided, and the sutures evenly and carefully placed, not only to obliterate every air space, but to distribute the

tension uniformly. Each knot should be tied carefully to avoid undue constriction at the last moment, a fault that is all too common, and that accounts all too often for sutures cutting through or pulling out. Jerking a strand or see-sawing it back and forth should also be avoided, for this always injures the tissues and impairs healing. Since there is almost invariably a certain amount of congestion and swelling of wounded tissues after a few hours, due allowance should always be made for such a reaction.

If this reactionary swelling is not anticipated and the sutures are drawn tense at the time of suturing, trouble is almost certain to occur. The constriction that develops naturally aggravates the tumefaction and swelling, and it is not unusual for a wound under such conditions to break open, and the sutures cut through one after another. Fortunately, the average surgeon realizes that the all important function of suturing is to maintain apposition, and sutures tied with this object and no other in view, usually allow much swelling to take place without becoming dangerously tense.

Finally, as to the protection of the wound after suturing. Inasmuch as there is usually a certain amount of serous exudate thrown out where the lips of a wound come together, which makes a favorable culture medium for the growth of germs, and suturing does not seal a wound against the entrance of germs, it is always highly necessary to keep it protected from all possible contamination. Sterile covering to exclude dirt and infective material should be applied therefore not only for the first few days but until healing has completely taken place.

The foregoing is a fairly comprehensive consideration of the main factors involved in the successful management of wounds. It will certainly show the great importance of system and thoroughness as well as the wisdom of paying due regard to the minor and seemingly inconsequential details that were once ignored and ridiculed. Happily that day is past and it is now pretty well undersood that it is attention to the little things that constitutes the real *finesse* of surgical technique.

If any one fact, however, deserves special emphasis in leaving this subject, it is that the real secret of success in the management of wounds is to study the natural processes of repair. When these are thoroughly understood the surgeon will then reinforce Nature's efforts wisely, not imprudently—in other words, he will know not only *what to do*, but equally *what not to do*. This is the length and breadth of the modern management of wounds.

The Placing of a Preliminary Perineal Stitch Previous to Delivery.[1]—So much interest has been created in Lapthorn Smith's recommendation to place a perineal stitch previous to delivery in cases that promise certain tearing, that the following description by the author is of especial value:

"Just before the child's head comes down on the perineum, the patient is anesthetized and brought across the edge of the bed with the feet held by a twisted sheet or leg holder. The perineum is sterilized with a soap and brush and mercuric bichloride, and then with the large curved perineum needle on a handle, furnished by Chapman of Montreal, held firmly in the right hand, and with the thumb of the left hand in the anus and left forefinger in the vagina the needle is entered at the base of the lesser lip on the patient's left, taking in the levator ani muscles and passed rapidly under the vagina, and about two and one-half inches above the fourchette, coming out at the corresponding point on the woman's right side. A silkworm gut suture is threaded into it and the needle is withdrawn, followed by the silkworm gut, the two ends of which are caught up with two Pean forceps. A second one is passed in the same way an inch lower down, but taking in the muscles of the perineum. We can generally tell beforehand, by the rigidity of the perineum, whether the tear is going to be a bad one or not. In the former case we can put in a third stitch, which would take in the sphincter ani on each side of the middle line. Delivery can now go on naturally or artificially, but as soon as the placenta has been delivered the perineum is inspected under a good light and a stream of water, all clots being rubbed off with the finger; the stitches are tied from above downward, when we will find that there is absolutely accurate coaptation of the separated parts.

"Speaking of the light in the confinement room, especially of the poor, we should always take steps before delivery to provide a good light for two reasons: That we may see how dirty the place is and second to see what we are doing. As a rule, a darkened room means a dirty and badly ventilated one. In the daytime, arrange the patient so that the perineum will be facing a bright window; and if the confinement is likely to take place at night provide beforehand for a good light easily available for examining the perineum. When we hear physicians say that they have never seen a tear of the perineum they may be telling the truth, because they have attended all their patients in a dark room. The presence of the silkworm gut stitches, placed as stated before the head comes through the perineum and hanging loosely attached by their ends to a Pean forceps, does not interfere with the termination of the labor in any way, not even when the forceps is required. If by keeping the pain under control and the head well towards the symphysis, there has happily been no laceration of the perineum, no harm is done by their having been introduced, you simply take off the forceps and draw them out, while if the perineum has been lacerated more or less, it is a great advantage to save time by having them already in, but still more by having them exactly in the right place to bring the lacerated surfaces together, just as

[1] A. Lapthorn Smith, M. D., Montreal, *Med. Record*, July 29, 1911.

they were before the delivery. The placing of the perineal sutures before the tear occurs is an instance in which 'an ounce of prevention is worth a pound of cure.' "

THERAPEUTIC NOTES.

The Treatment of Dysmenorrhea.[1]—Branch concludes his practical paper on the Treatment of Dysmenorrhea as follows:

"1. Attention to the general health, sleep, rest, exercise, fresh air and regulation of the bowels.

"2. Electricity promised much, and in some hands has worked wonders.

"3. Pessaries, when properly applied, may correct a displacement, though the benefit is often but temporary. Their use has many strong advocates, although few men nowadays are experienced in their application.

"Drugs: (a) those which merely relieve pain —anodynes; (b) those which attempt to reach the real cause.

"In the first class may be mentioned the coal tar derivatives—acetphenetidin, phenyl salicylate. Aspirin may be given in doses of two to five grains every four hours, if necessary; counterirritants externally; heat, mustard, cantharides, either applied to the lower abdomen or spine, extending from the cervical to sacral regions. Cupping, or light touches of the Pacquelin cautery, may prove of benefit. Opiates should be withheld until the last resort. Suppositories containing opium and belladonna, of each grains one, often give relief. Sodium bromide is an old and sometimes efficacious remedy.

"Drugs which attempt to reach the real cause of dysmenorrhea are the antispasmodics, as viburnum, cannabis indica, atropine, elixir of celery and guarana, and substances influencing secretions upon which menstruation depends.

"The following prescription has proven of value: Sodium or potassium bromide, ounce one; tincture cannabis indica, drachms two; elixir of celery and guarana, q. s. ad ounces four. Sig., one teaspoonful in hot water every four hours.

"When the dysmenorrhea is associated with a scanty flow, some drug which could increase the flow might be indicated, the most potent being the glandular extracts. With these preparations I have little experience, and until recently little has been written. Preparations of thyroid, ovary, parotid and mammary glands have all been used with relief, the dose being from one to five grains. When the flow is excessive a substance diminishing these various secretory activities seems to be indicated—sodium bromide and the various calcium salts, for example. In a personal communication, Dr. Howard A. Kelly informed me that Blair Bell, of Liverpool, was using calcium lactate successfully."

[1]G. F. Branch, M. D., *Southern Med. Jour.*, Sept., 1911.

Precautions Concerning the Use of Iodine in Surgery.[1]—Walker offers the following precautionary suggestions in regard to the surgical use of iodine:

1. Always secure as dry a condition as possible of the skin, bone-cavities, and all other cavities exposed to the air. This is especially important in emergency work.
2. Always use the tincture in full strength on all mucous membrane where inflammation is due to infection. All such cases should be drained with gauze.
3. Whenever iodine in any strength is used in closed cavities, such as the urinary bladder or uterus, either thoroughly douche with saline solution and hydrogen peroxide or insert a drain—preferably a small gauze drain.
4. Do not use iodine in combination with other drugs. It should always be used alone. If it is desired to dilute the tincture, use water.
5. Do not use a hypertonic salt solution, Wright's solution, or hydrogen peroxide for twelve to twenty-four hours after using iodine.
6. Never use the full strength in the vagina or rectum.
7. In all indolent wounds or ulcers, apply a bandage as nearly air-tight as possible for twelve to twenty-four hours after a thorough application of iodine.

[1]F. E. Walker, M. D., *Jour. of the Minn. State Med. Ass'n.*, Feb. 15, 1911.

Bed-Sores. Bed-sores are likely to occur in the patient who is aged, paralyzed, debilitated, or suffering from fever, particularly continued fever, like typhoid (*The Med. Brief*); in short, their formation is liable in all cases where the blood is vitiated, or its circulation retarded, and the constitutional powers reduced; pressure, uncleanliness, and moisture hasten their appearance.

To prevent them, keep the patient clean and dry, changing his position whenever practicable; keeping the feet warm assists circulation; keep the under sheet free from wrinkles and crumbs; remove pressure from prominent parts by using air-cushions or like appliances.

Soap plaster is sometimes applied to exposed portions or bathing with bay rum, whiskey, witch hazel, camphor, or vinegar, etc., but the best way is to strengthen the skin's resistance by bathing with alcohol, pure, or with the addition of two grains of bichloride of mercury to each ounce; keep the bottle handy and bathe often—whenever opportunity offers. This treatment hardens the skin, and promotes circulation, and should be commenced at the beginning of illness, before the skin is even reddened. Should reddening appear, apply flexible collodion, or dust with zinc oxide, talcum, or other good powder after bathing.

HYGIENE AND DIETETICS.

Important Points on the Care of the Newborn Infant.—When urination is delayed immediately following the birth, says a writer in the *Nurses' Journal of the Pacific Coast*, try a warm sitz bath for the baby and give plenty of water, not too cold, to drink.

When the baby suffers frequently from colic and is troubled with rumbling in the bowels and general restlessness, an irrigation of the colon with salt solution, using a medium sized soft rubber catheter, will usually give relief. The solution should be injected a little at a time and continued till it returns clear.

The weaker the baby the more it becomes exceedingly important to prevent heat loss. To keep the baby thoroughly warm, to prevent chilling at any time, and to keep the supply of air pure, are all important points to be watched.

When the cord remains constantly moist a washing with alcohol, about 95 per cent., will help to improve conditions. The navel should always be regarded as a wound, requiring the most exact surgical cleanliness.

When the baby has difficulty in nursing, the application of a hot fomentation to the breast before each nursing, over the nipple, will help to lessen the trouble by bringing the milk to the surface.

A great deal can be learned as to the child's condition by carefully observing stools. The normal stool in the newborn is dark green for two or three days, gradually becoming brown. The change from brown to yellow is gradual, and by the end of the first week the stool should be a golden yellow. When a baby is not getting sufficient food the color of the stools will remain brownish rather than yellow.

Weighing the Baby.—Dr. Francis H. MacCarthy gives in his recent book,[1] the following valuable information as to growth and development of the child during the first year. "During the first three or four days of life, before the flow of milk becomes established, the infant usually loses from five to eight ounces. After nursing begins, however, this is soon regained, usually by the tenth day.

"From this time on through the first three months the infant should gain steadily from five to seven ounces a week. During the next three months the gain is slightly less, varying in different children from three and one-half ounces to five ounces a week.

"From the sixth to the twelfth month the gain is about three and one-half ounces a week.

"The child with an average weight at birth of seven and one-half pounds would weigh at:

Three months .....12 to 13 pounds.
Six months .....15 to 16 pounds.
Nine months .....17 to 19 pounds.
One year .....20 to 21½ pounds.

"It is interesting to note that a healthy baby will double its birth weight at five months, and at one year it will weigh almost three times as much as it did at birth.

"Babies fed from the bottle seldom gain as rapidly during the first month as infants fed at the breast, for the reason that it takes some weeks for the stomach to become accustomed to cow's milk, and during this time the milk must be weakened or the child's digestion will be disturbed. After this time, however, if the milk is prepared carefully, usually the gain will be about as regular as in nursing infants.

"While most healthy babies gain steadily during the first year, it should be remembered that there are certain times when no gain is made and the weight remains about the same. This may occur while the child has a slight cold or is cutting teeth, and sometimes during very hot weather.

"After the first year the gain in weight is not so continuous, and there are many interruptions which often occur without apparent cause. The weight and height of an infant must necessarily depend to some extent upon heredity and the conditions surrounding the mother before the baby is born. It is apparent, then, that no one rule or table of measurements will apply to all children, and that only average figures can be given.

"TABLE SHOWING WEIGHT AND HEIGHT OF THE AVERAGE CHILD.

Age.	Weight, pounds.	Weight, ounces.	Height, inches.
At birth	7½	..	19½
Two weeks	7	10	..
Three weeks	8	1	..
One month	8	8	21
Two months	10	7	22
Three months	12	6	23
Four months	13	13	24
Five months	15	4	24½
Six months	16	3	25
Seven months	17	2	25½
Eight months	18	1	26
Nine months	19	..	26½
Ten months	19	14	27
Eleven months	20	13	27½
Twelve months	21	12	28
Eighteen months	23	..	29½
Two years	27	8	33
Three years	32	..	36½
Four years	36	..	38¾
Five years	40	..	40
Six years	44	8	44
Seven years	48	8	46
Eight years	53	8	48
Nine years	59	8	50¾
Ten years	65	..	52

"Some children may weigh less than the figures in the table and still be in thriving condition, while it is not at all unusual for many children to exceed these figures. When, however, an infant is very much behind in height and weight the mother should at least suspect that something is wrong, and if in addition to loss of weight the child cries excessively, looks thin and pale, or is constantly sucking its fist, she should seek medical advice."

[1] "Hygiene for Mother and Child." Harper and Brothers.

A Simple Method of Purifying Almost Any Infected Water for Drinking Purposes.[1]—Nasmith and Graham in their very complete paper describe this method as follows:

1. Take a teaspoonful of chloride of lime, containing about one-third available chlorine, and remove the excess of powder by rolling a pencil or other round object along the top of the spoon, or by flattening it with a penknife blade, so that the excess will be squeezed off.

2. Dissolve the teaspoonful of chloride of lime in a cupful of water, making sure that all lumps are thoroughly broken up, and to it, in any convenient receptacle, add three more cupfuls of water.

3. Stir up the mixture, allow to stand for a few seconds in order to let any particles settle (this stock solution if kept in a tightly stoppered bottle may be used for four or five days), and add one teaspoonful of this milky stock solution to two gallons of the water to be purified in a pail or other receptacle. Stir thoroughly in order that the weak chlorine solution will come into contact with all of the bacteria, and allow to stand for ten minutes. This will give approximately one-half part of free chlorine to a million parts of water, and will effectually destroy all typhoid and colon bacilli or other dysentery-producing bacilli in the water. The water will be without taste or odor, and the trace of free chlorine added rapidly disappears.

This method is also applicable to the sterilization of wells which have been infected, provided, of course, that the source of the infection has been removed. It would obviously be futile to sterilize a well situated in a farmyard from which organic matter and bacteria are constantly draining into the well.

If one knows the diameter and depth of the water in the well in feet, the amount of chloride of lime may be easily estimated. For instance, the writer wished to destroy the bacteria in the well at his summer cottage, the well being 6 feet wide by 4 feet deep. The formula would be radius squared $\times$ 22/7 $\times$ depth of the water $= 3 \times 3 \times 22/7 \times 4 = 113$ cubic feet of water in the well. One cubic foot contains 6¼ gallons of water, so that there were $113 \times 6\frac{1}{4}$ = about 700 gallons of water in the well.

One and a half pounds of chloride of lime to 100,000 gallons will give roughly one-half part of available chlorine in a million parts of water, or 1 pound to 66,000 gallons. Therefore, $700 \div 66{,}000 \times 16 = 1/6$ ounce chloride of lime was necessary to purify the well. The chloride of lime was mixed with water, diluted, and poured into the well, and then thoroughly mixed by plunging a long pole with a couple of strips of wood nailed across one end up and down in the water. The water before chlorination contained 950 bacteria per cubic centimeter with colon bacilli present; after chlorination there were only nine bacteria and no colon bacilli.

[1]C. P. Nasmith and G. D. Graham, M. D., *Jour. Royal Army Med. Corps*, July, 1911.

Flies.[1]—The great insect hunt, that we predicted many years ago, as likely to develop in the future when Africa was denuded of game by so many retired officials, has actually occurred, says a writer in *Medical Council*. The hunting of flies is now, in many parts of our favored land, not only a legitimate but a profitable amusement. Even fly-killing contests are in vogue, under the auspices of Sunday schools, the children killing the most flies getting the prize. The numbers of flies caught staggers the imagination. One child, in a contest of this kind, in Greenheaderville, Atlantic County, New Jersey, won a beautiful colored picture of our President, elegantly framed, and five dollars in cash, by collecting 1,985,000 flies, beating his competitors whose highest record was only 1,889,000. This kind of competition is a valuable substitute for baseball and running races; it puts less strain on the growing body, can be carried on in the house and on rainy days, teaches practical mathematics as well as wet and dry measure, as they seem to have estimated their catch in pints and quarts as the accurate count. These flies are caught in the crusade against the fly as a dangerous insect, always spreading disease. It has been told us that every fly carries on its dirty little feet, about, as a low estimate, 83,000,000 germs of various kinds, and if we should multiply these 83,000,000 germs that each fly carries by the 1,889,000 flies caught by even one of the competitors—to say nothing of all the others—we arrive at the astonishing number of 156,587,000,000,000 germs, which are necessarily handled by these children in these contests. How many of these poor children are already dead we do not know, but is it not about time for the health authorities to interfere? It seems a shame that children of tender years should be allowed to run such risks merely to help some young man to get his name before the public in connection with the fly-crusade, which, since the collapse of the tuberculosis crusade, as a notoriety winner, has taken its place to some extent.

[1]*Medical Council*, Oct., 1911.

GENERAL TOPICS.

Clinical Congress of Surgeons of North America.—The Executive Committee of the Clinical Congress of Surgeons of North America has issued invitations to the second annual session of the congress, to be held in Philadelphia from November 7th to 16th. The Bellevue-Stratford Hotel will be headquarters for the congress. The programme includes clinics by the leading surgeons of Philadelphia in all the principal hospitals each day from 8 a. m. to 5 p. m., the evening sessions being devoted to the reading and discussion of scientific papers. Among those who will present papers and take part in the discussions are Dr. J. F. Binnie, of Kansas City, Mo.; Dr. George Emerson Brewer, of New York; Dr. Maurice H. Richardson, of Boston; Dr. Albert J. Ochsner,

of Chicago; Dr. Alexis Carrell, of New York; Dr. William J. Mayo, of Rochester, Minn.; Dr. Hugh T. Patrick, of Chicago; Dr. Harvey Cushing, of Baltimore; Dr. Alfred R. Allen, of Philadelphia; Dr. Charles H. Mayo, of Rochester, Minn.; Dr. Joseph A. Blake, of New York; Dr. J. M. T. Finney, of Baltimore; Dr. Charles L. Scudder, of Boston; Dr. Charles N. Dowd, of New York; Dr. R. Tunstall Taylor, of Baltimore; Dr. Edward Reynolds, of Boston; Dr. Edward B. Cragin, of New York; Dr. John A. Sampson, of Albany; Dr. Joseph H. Bryan, of Washington, D. C.; Dr. Gorham Bacon, of New York; and Dr. John E. Weeks, of New York. Complete programmes, with detailed information regarding registration, will appear in full in the October number of *Surgery, Gynecology, and Obstetrics*, the official organ of the congress, and copies of this issue may be obtained free of charge by addressing the general secretary of the congress, Dr. Franklin H. Martin, 31 North State Street, Chicago. Dr. John G. Clark is chairman of the Philadelphia Committee on Arrangements, and the Executive Committee is composed of Dr. Albert J. Ochsner, president; Dr. John G. Clark, vice-president; Dr. Franklin H. Martin, general secretary; Dr. Allen B. Kanavel, general treasurer, and Dr. A. D. Ballou, general manager.

Statistics of Suicide in the United States.—Frederick L. Hoffman states, according to the *Spectator*, that the combined suicide rate of 100 American cities, which was 21.8 per 100,000 population in 1908 and 21 in 1909, fell to 19.7 in 1910. The rate for New York was 18.9. San Francisco has the highest suicide rate of any city in this country, the figures reaching a yearly average of 52 per 100,000 inhabitants for the period from 1900 to 1909, although in 1909 the rate fell to 42. Of six American cities in which suicide has been most frequent in the past ten years, five are Californian cities; these, in the order of their suicide rate, are San Francisco, San Diego, Sacramento, Los Angeles, and Oakland. Hoboken, with a suicide rate of 35, is third highest in the list of 100 cities. There was a general falling off in the number of suicides during 1910. Mr. Hoffman states that suicide is often caused by temporary mental irresponsibility, but it is also often the result of a suicide intent which has extended over a period of years. The increasing complexity of modern life favors mental and moral discontent, which is often assumed to be identical with mental irresponsibility. The more the underlying causes of suicides are considered the stronger becomes the conviction that many suicides are the result, not of a want of mental balance, but rather a deliberate conviction that continued existence would not be worth while. Perhaps no occupation emphasizes this conclusion more precisely than the frequency of suicide among bankers and brokers, where a long career of dissipation and fraud often makes suicide the only desirable alternative. Whatever may be said of suicide in the past, it is certainly relatively common among sane men and women to-day. The present decrease of suicides in American cities is only temporary. This is shown by the fact that, whereas in 1891 the rate was only 13½, during each five years since the rate seems to have gone down and then to have gone up, but always ends by reaching a higher point at the end of each period. The smaller the city the lower the suicide rate tends to be. The suicide rate of a well-developed, prosperous country ought not to be more than 25 suicides per 100,000 population, according to German statistics. Suicides by male Germans seem to have reached their rate limit, having remained at 35 per 100,000 for a long time. But suicide among German women is constantly increasing. Only about 24 American men commit suicide in every 100,000, while only about 7.6 American women in every 100,000 commit suicide. A decided fall in the rate of business failures in 1892 corresponded to a similar fall in the suicide rate, followed by a rapid rise in both rates during the panic year of 1903. But the economic condition of the nation is of course only one of many factors which determine the degree of suicidal frequency.

Red Cross Seals Not Abolished.—"Not only will the sale of Red Cross Christmas seals be continued this year, but it will be carried on along broader lines, and will be larger and more comprehensive than ever before," says Dr. Livingston Farrand, executive secretary of the National Association for the Study and Prevention of Tuberculosis, in a statement issued by the press bureau of that organization.

Dr. Farrand denies absolutely the statements which have appeared recently to the effect that Postmaster General Hitchcock had forbidden the sale of Red Cross seals. "No official order has been issued in this matter," says Dr. Farrand. "On July 1 the Post Office Department decided that they could no longer carry mail matter which bore stamps or seals which resembled postage stamps. Our design of the Red Cross seal, however, has been approved definitely by Postmaster General Hitchcock and the department, and it does not come within the prohibitions of this order of July 1. It hardly looks as if we were going to abandon the sale, when we have already placed the order for the printing of fifty million seals and for large quantities of advertising matter.

"The Red Cross seal this year will be from a new design drawn by an artist in Washington, D. C. Every effort has been made to get as far away from the conventional design of stamps and seals as possible. The new seal will depict a very pretty winter scene. In the lower right-hand corner will appear a snow-covered house with a pine tree, also snow-covered, in the foreground. The scene is at night and the windows are lighted. In the background are trees and snow-capped hills. In the upper left-hand corner will appear a small red cross. The entire design is enclosed with a

heavy red circle. The year is expressed in Roman numerals. The only other words on the seal are, 'American Red Cross, Merry Christmas, Happy New Year.' The corners of the seal, which will be square, are in white, thus giving the effect of a circular seal when it is affixed to letters and packages.

"It is very important that every one bear in mind that the Post Office Department will not carry any letters bearing these seals or any other non-postage stamps upon the face of the letter. Red Cross seals may and should be placed on the back of letters and packages.

"Agents for the sale of Red Cross seals have now been appointed in every large city of the United States. More territory will be covered this year, and more agents will sell seals than ever before. We need and want a million dollars from the sale of Red Cross seals in 1911."

Medical Slang.[1]—In an article by one of America's most prominent surgeons and medical authors, very recently published in a state journal, says the editor of the *American Jour. of Surgery*, we find the passages: "after removal of an acute appendix" and "the unmasking of a chronic appendix in ambush." Of course, the author means by "an acute appendix" "an acutely or chronically inflamed appendix" or "an acute appendicitis." But why carry the inelegant slang of the operating room into the manuscript of a presumably dignified address, into the printed page of permanent medical literature!

"An acute appendix is of a piece with "the patient had no temperature" and with the numerous other instances of slang that are found in the manuscripts of those who ought to know better. They constitute one of the several unnecessary burdens cast upon the careful editor by writers who would feel aggrieved if they were accused of carelessness.

How to Kill Flies.—To clear rooms of flies carbolic acid may be used as follows (*St. Louis Med. Review*): Heat a shovel or any similar article and drop thereon twenty drops of carbolic acid. The vapor kills the flies.

A cheap and perfectly reliable fly poison, one which is not dangerous to human life, is bichromate of potash in solution. Dissolve one dram, which can be bought at any drugstore, in two ounces of water, and add a little sugar. Put some of this solution in shallow dishes and distribute them about the house.

Sticky fly-paper, traps, and liquid poisons are among the things to use in killing flies, but the latest, cheapest and best is a solution of formalin or formaldehyde in water. A spoonful of this liquid put into a quarter of a pint of water and exposed in the room will be enough to kill all the flies.

To quickly clear the room where there are many flies, burn pyrethrum powder in the room. This stupefies the flies, when they may be swept up and burned.

[1]Oct., 1911.

Chronic Cystitis. — Santonin acts very promptly in chronic catarrh of the bladder, when given in ½-grain doses three times a day. The flow of urine is speedily increased in volume, and flows with ease. The sensitiveness and feeling of fullness in the bladder disappears and a cure is generally effected in a very short time.

HOOK WUM PHILOSOPHY.

Dey says dat Ise a no-'count man. Dey says I got no 'scuse
A-litterin' up de lan'scape, en dey say I ain' no use.
De preacher says dat I's so slow, it gwinter come to pass
I'll be debbil's piece er punk, en las', en las', en las'!
But ef dey lemme 'lone, I ain't a ans'erin' deir sass.

I *kin* wuk ef I'se a minter. I kin wuk, er let it be,
But I got no call to pester wuk dat does n' pester me.
I been a-watchin' wuk-folks while I'se settin' in de sun,
En de mo' dey wuks, de mo' dey wuks. Dey nuvver gits no fun,
'Caze what 's de use er doin' whut dey nuvver does get done?

Dey says I got de hook-wum, en dey gwinter fish me out.
But des yeah hook-wum doctehs ain' so suah what dey's about,
'Caze I know'd a whi' man one day git a misery inside,
En dese yeah hook-wum doctehs tuk en cut him froo de hide
En fished his wurmy outer him, en den dat whi' man died.

Whut's dis yeah hook-wum did ter dem? Why ain' dey let him be?
It is n't dem he's eatin; no suh, he's a-eatin' me!
When dese yeah doctehs comes en says dey knows a powerful lot
Huccume dis hook-wum in me, en a-pintin' at de spot,
I tels 'em dis yeah hook-wum is de best' frien' dat I got.

I is n' gwine ter chase him out. I ain't no such a fool.
Dey useter wuk me ev'y day des like I was a mule,
But now dey nuvver ax me, 'caze dey says I ain' no use;
Dey says I *cain't* wuk, caze dat wum is eatin' all meh juice,
En ef I lose dat hook-wum, wha' I git anudder 'scuse?

—*Edmund Vance Cooke.*

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor.*
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Football fatalities are still with us in spite of the new rules which have greatly reduced the number of serious injuries. Indeed as compared with 1908 the season of 1910 showed a slight increase of deaths. It seems as though the new rules really do prevent much serious injury—the players now merely killing each other. The Marquis of Queensbury rules are far superior in that every advantage is given the contestants so that they can defend themselves, but the football player is generally injured when he is in a defenseless position, even when he is down. Sometimes he is struck from behind and as a rule one man is attacked by several. We therefore suggest that prize-ring rules be introduced next season in the interests of fair play and human life, as there seems to be no earthly prospect of the abolition of the game. Fourteen fine men have been slaughtered to make a holiday, and our women are just as keen for it as the Roman ladies were for the death of gladiators. Spanish ladies shrink with horror at the mention of our brutality, but have none of our maudlin sentimentality over the sight of a blinded horse disemboweled by an enraged bull. There is something rotten in our Denmark—not theirs.

Serious football injuries have been reduced from 134 in 1908, to 64 in 1909, and 40 in 1910, so that there are now just exactly 40 too many broken necks, broken backs, broken bones, disrupted joints, concussions of the brain, and internal injuries. We can find no statistics of minor injuries, though some of these "trivialities" leave disabled joints for life. What a dreadful record for "sport!" To be sure, boys are always reckless and a certain percentage succeed in killing themselves in every necessary game, even girls have died from skipping the rope. Nevertheless, here is a game which admittedly has no developmental value whatever, for only those who are already well developed can take part. The chief advantage to the weaklings seems to be the opportunity to get out doors and exercise the lungs and voice "rooting." It seems amazing that the game persists in its present form, but unless its advocates make it less deadly we presume that more college trustees will forbid it entirely. A movement in that direction has been started and is liable to spread, unless the public mania to witness brutality is stronger than the better sense of trustees and faculties.

Diseases cured or improved by cold air are evidently much more numerous than we have hitherto imagined. Malaria is particularly benefited even if not cured, and it relapses by return of hot weather—facts long known as to tuberculosis, dysentery and other intestinal cases. Ross and Thom-

son report that their animals were far livelier, healthier and more vigorous in the cold, and it fully explains the curative results in Trudeau's classical experiments with tuberculous animals treated outdoors, for the sunshine had nothing to do with the laboratory cases in Liverpool as the room was but indifferently lighted. Crane long ago (*St. Louis Med. Review,* July 7, 1906) showed that cold air is beneficial in human tetanus and that experiments indicate that guinea pigs infected may not develop the disease in cold air, but hot air hastens the appearance of symptoms. Our former sad record of Fourth of July cases shows it is a hot weather disease and now we see it is not only due to the fact that the organisms then grow in garden mould but that the children are more susceptible. Cold air in yellow fever has been both suggested and condemned and must be further studied. All in all, there is no doubt that we must spend as much money cooling the sick rooms and living rooms in summer as we spend warming them in winter, indeed it is far more important to cool them, for we can live in cold houses by dressing for it like millions of other nations do. As for therapy, cold air is now as necessary as quinine or mercury, and every hospital must be equipped. In a short time it will be a mere routine as to prescribing the degree of cold to be maintained in the ward, and it will then be done by the turn of a valve without altering the ventilation in the least.

The reasons why cold air is curative have not yet been discovered. The only thing we know is the fact of cure, but our ignorance must not delay the application of the new knowledge. We haven't the remotest conception of how quinine cures, but we do not hesitate to use it. The main fact known, and about the only one indeed, is the contraction of superficial arterioles—a condition extending also to those of the mucous surfaces whose inflamed condition often disappears miraculously. Skin lesions indirectly due to heat are largely the direct result of capillary dilatation and disappear with cold, of course. Cold air has more oxygen and requires fewer respirations and less heart energy, both of which are vital matters where the heart is laboring. More blood is available internally if the superficial system is partly empty, and this of itself may cure inflammations or stop infections. An anemic person makes his blood more effective and indeed we may actually need less in the cold than in the heat. The bracing effect of cold on the nervous system is known, but why this happens is a mystery, unless the tissue is better fed by the increased blood supply. It is largely a racial matter that intellectual achievements come from cold climates, but these same types become sluggish in time when they migrate to hot places, so the heat is nervously depressive in some way. Indeed, the whole field is fascinating in its opportunities for research. Why not get at it as vigorously as we have been studying the bugs and vaccines?

The blood pressure in cold air must be studied at once, as it may be the key to much which is now locked from us. The arterial tension is generally reduced at first when one goes to high altitudes, but it is later increased as a rule, and this may be due to the cold and not a reaction from a low barometric pressure which really has no mechanical effect on the blood pressure. It has long been known that the heart is weak, and the blood pressure low as a rule in tuberculosis, and if we can increase both by cold we have one explanation for the winter

cures, and a hint for climatic treatment. It begins to look as though places with a hot season and those with no cold season will in time be ruled out for the tuberculous. The death rate at some of these places has been scandalous, and in spite of rose-tinted reports of those interested financially and commercially, there is reason to believe that many a consumptive has had his life greatly shortened by going to a hot climate. If lowered blood pressure really results from the heat, we have the explanation.

The importance of exercise as a factor in the preservation of health was never more broadly appreciated than it is today. The truth of this is amply corroborated by the large number of special systems that are being exploited in the advertising pages of our popular magazines. Taking advantage of the widespread recognition of the harm that results from lack of proper exercise, the opportunists have offered a multitude of methods, freaky, fakey and otherwise, for developing the muscles, the breathing capacity, and general physical powers of the body, all with a minimum of effort but a maximum of result. "Spend five minutes every morning with Dr. T's dumb bell drill—and insure your health." "Use Professor B's patent exerciser five minutes every morning—and watch your muscles grow!" "Follow Professor A's original system of opposing groups of muscles—and become a Sandow!"

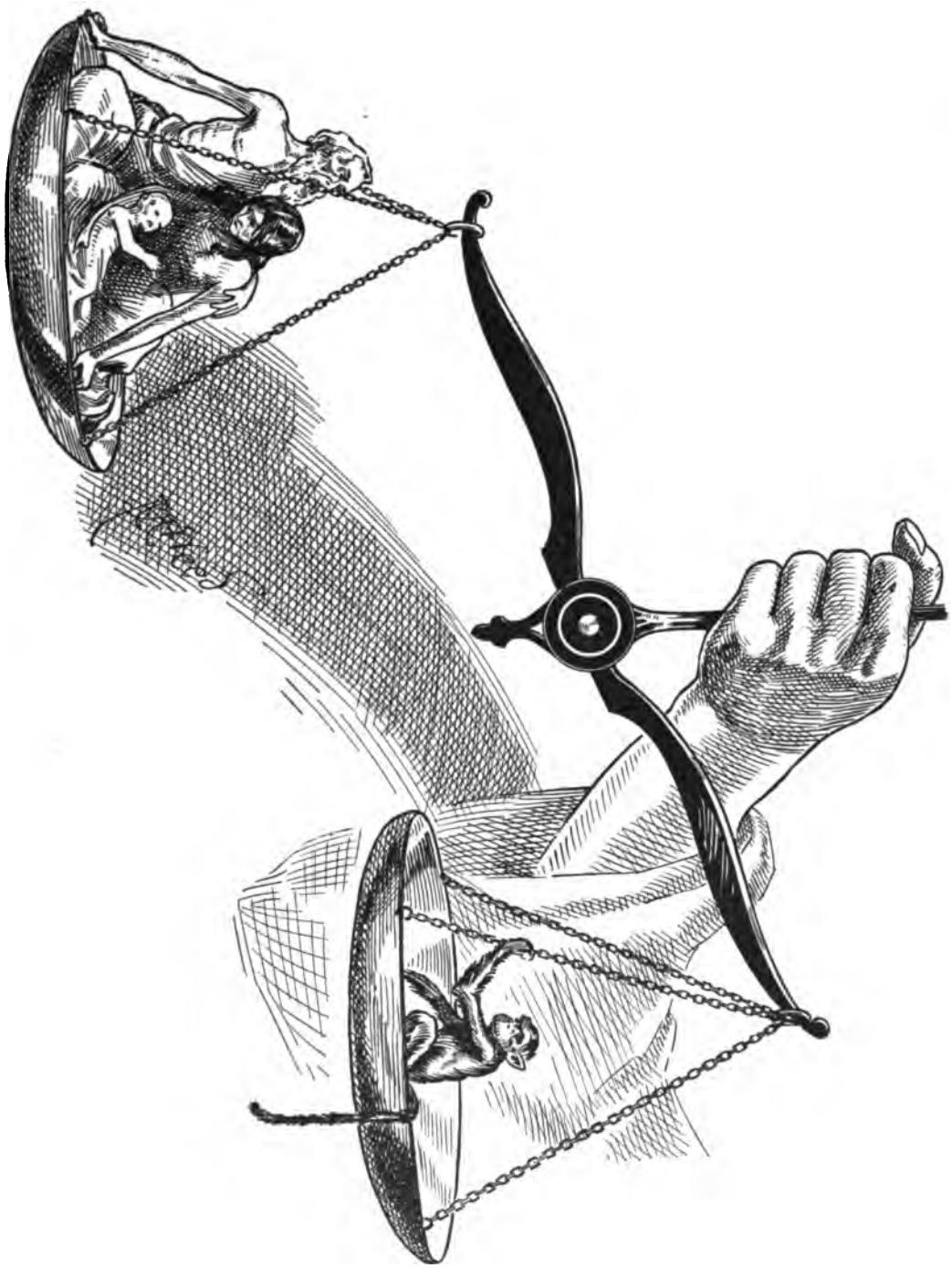
And so it has gone. Countless people conscious of the need of more exercise have grasped at these special systems as a drowning man grasps at a straw. Lazy and lethargic as the average person of sedentary habits always is, the hope of accomplishing so much at so slight an expenditure of time and effort has been attractive indeed. It certainly is a delightful picture that the corpulent and obese have had conjured by these advertisements of the exercise specialists. Who would not spend five or ten minutes a day performing even the most outlandish capers in the secrecy of their rooms—and the freedom of their pajamas—if they could exchange rotundity and unsightly proportions, for the physique and beauteous development of an Apollo or an Adonis? Possibly a few have received some benefit from these "get-strong-quick" systems, for the slightest increase of muscular effort, however simple it may be, is a gain if on no other basis than that a little is better than none. But in the great majority of instances, after a few days' listless endeavor, the "wonder working" system is discarded and the individual begins the search again for some other plan or process that will bring the desired results more promptly or with still less expenditure of actual effort. Sooner or later these patients run the whole gamut of freak exercises for the lazy, and become more lethargic than ever. Physicians are usually consulted at this time when those who most need exercise are least willing to take it in any form. Aside from the actual muscular inertia, the psychic state of those addicted to sedentary or torpid lives, leads them to regard any routine or systematic scheme of physical exercise with the greatest antipathy. Of all hardships, systematic exercise seems, therefore, to be the worst for this class of people. As a consequence, they go on "digging their graves with their teeth," and storing up in their bodies poisons that are bound to curtail their years of life. Zealous physicians recognizing the evils that inevitably result from insuf-

ficient physical activity, have long sought a solution of the problem. Gymnasiums, indoor and outdoor, have been helpful to many, and still further benefits have accrued from such games as baseball, football, hockey, tennis, squash, handball and so on. The great drawback to these games however, has been the fact that they all require special skill, and gradually those who play them are narrowed down to those who show special aptitude. Those who really need to play them most, avoid them because their physical weaknesses or muscular shortcomings render them inefficient and awkward. These games as a matter of fact, are largely responsible for the failure of many to exercise sufficiently, for only a few can acquire real prowess, and it is the line of least resistance to watch those who are expert, and leave actual playing to them. Horseback riding is another excellent exercise for those who circumstances and opportunities admit of a pastime or sport that is obviously exceedingly expensive.

Unquestionably an exercise to admit of universal application must be simple, call for no special apparatus, equipment, or individual skill or ability, admit of wide variation to meet the needs or capacity of different people, and finally, afford a degree of muscular activity that will insure the benefits sought. The exercise that seems to meet these various requirements most satisfactorily is walking.

Walking is the best of all exercises because the most easily taken, the most adaptable to the varying needs and capacities of different individuals, and the most effective in its immediate and remote results. Moreover, it is the most hygienic exercise because it calls into action to a greater or less extent, practically the entire system of muscles. After one acquires the ability to walk properly, that is, to obtain the utmost benefit—it gradually becomes more or less automatic, and yet the benefits follow just the same. Therefore, when it becomes necessary to recommend exercise, medical men should urge walking and point out its advantages with real enthusiasm, not perfunctorily, or in a matter-of-course way, and leave their patient to walk little or much, or in a slipshod, indifferent manner. In fact, it is highly essential that the physician in prescribing walking should give directions in connection therewith, with the same attention to detail that he would regulate the diet or administer a potent remedy. One may rest assured that the care and attention given to the method, amount, and time of walking will bring not only tangible but very substantial results, as every physician who has ever devoted the thought to the matter that its importance deserves can testify.

First as to the method. Each individual usually has certain mannerisms or physical habits, but these rarely require correction unless they interfere with free locomotion and proper position of the body. The patient should be instructed to stand erect, throw out the chest, draw in the abdomen and keep the body upright with the shoulders well back. In stepping off, he or she should point the foot ahead, throw the body forward as straight as possible and as the moving foot is placed, shift the weight—body still erect—to that side. Then bring the other foot forward and place it in the same manner as the other. The heel naturally strikes first and at the moment that the sole comes over and down, the bodily weight should be shifted



HUMANITY IN THE BALANCE!

to that foot and side. For a while, until an individual develops a free graceful gait and carriage, he or she should be urged to pay close attention to the separate muscular movements and the method of stepping. It is surprising however, to note how soon a person will unconsciously stop thinking of these movements, and adopt a style of walking that is graceful, non-tiring and highly beneficial. A sense of power, of being able to go unlimited distances, is then developed, and instead of walking being a hardship and something to be dreaded, it rapidly becomes a genuine pleasure and delight.

At the beginning only short walks should be taken, those of the first day or so not exceeding half a mile. An excellent plan is for the patient to get a pedometer and regulate his walks by this. This little pocket instrument may not be absolutely accurate but it is sufficiently so to give a person a very good idea of the distances covered, and this adds a new interest and zest to walking. Each day the walk should be in a different direction and the distance gradually increased as the patient develops his gait and loses the sense of effort or fatigue. Almost before one realizes it, he can walk ten to fifteen miles without the slightest fatigue. From now on the benefits become manifest and the daily walk often proves so refreshing and invigorating that a patient is much upset if he has to forego it, and actually misses the beneficial effects. Proper clothing is essential if the utmost good is to be obtained from walking. This should be adjusted to the season and never be burdensome. Especial attention must also be given to the stockings and shoes. The stockings should be of light weight and fit properly. The shoes should have fairly heavy soles with light soft uppers that lace snugly but not too tightly around the ankles. Great care should be taken to secure shoes that properly fit the feet. Of all abominations a tight, ill fitting shoe is the worst. Too large shoes are perhaps not so disagreeable and painful, but they are no less apt to cause serious trouble. Low or Oxford shoes are not as desirable for walking, as they fail to provide the ankle support needed. It goes without saying that no one should ever attempt to walk any distance in new shoes. Within the last few years heels of rubber have become available, and the experience of many different people under widely varying conditions has demonstrated, apparently beyond all question, the practical value of this material for preventing the hard solid impact that is inseparable from the use of leather heels. Rubber heels not only afford a cushion-like effect that materially reduces bodily jar, but they prevent slipping and sliding. Since the major part of the sidewalks that urban dwellers are obliged to walk on are hard and unyielding, the advantages of heels of an elastic, resilient material like rubber would seem to require no argument. The fact that they have come into almost universal use shows that wearing them is not a mere fad, but is due to a common sense appreciation of their real benefits.

The greatest care must be taken to keep the feet from getting tender and sore. In a long walk it is not the heart or lungs that first give out or cause annoyance, it is the feet. There is hardly anything that can occasion such intense suffering or depress the spirit and ambition like sore feet. Army officers have long realized the importance of keeping the feet of "the rank and file" in good condition and the slightest deformity or abnormality of the feet al-

most always leads to the rejection of the applicant who is seeking to enlist. So much attention has been devoted to the subject in army circles that it has become a common saying that "a soldier is only as good as his feet."

In prescribing walking, therefore, and giving a patient detailed directions in order that the greatest possible benefit may be derived therefrom, some special reference should always be made to the care of the feet. The first intimation of inflammation should be looked on as a danger signal, and an indication for prompt and vigorous treatment. Frequent bathing is of course essential, and in the presence of any evidence of irritation, the feet should be immersed once or twice a day in a fairly strong solution of salt and water, to which a little alum may oftentimes be added with advantage. This toughens the skin and makes it more resistant. Applying alcohol as a lotion just before and just after each walk is an effective means of preventing the development of soreness and chafing. In due course, however, as the circulation in the lower extremities is adjusted to the demands occasioned by the increase of muscular activity, and the tendencies to congestion are overcome, the feet lose their sensitiveness and become normally hardened. From now on hardships are unknown and walking becomes the solution of the exercise problem for sedentary workers and those whose habits or circumstances incline them to lives of physical inactivity. As previously pointed out, this so because no other form of exercise is so easy to take, or so subject to regulation. It requires no special preparation, entails no expense, and is available to everyone who is not physically incapacitated. Followed as outlined, it brings many different muscles into play, naturally increases the lung capacity and exerts the most salutary effects on the mental condition. Taken with congenial companions or along favorite by-ways, it soothes the mental state of those who are over tired or perturbed. Indeed, as someone has said, walking often acts as a safety valve to the mental system that is carrying too much steam. It is not uncommon for nervous and excitable patients who complain of fatigue to return from a walk of several miles, wonderfully refreshed and rested. The reasons for this are plain, for the resulting stimulation of the circulation not only removes the waste products that, accumulating in the tissues, give rise to the sensation of fatigue, but by increasing the flow of blood to every tissue, including the brain and higher centers, produces a grateful sense of invigoration and well-being.

We have thus enlarged on the value of walking, because it seems that there never was a time when the gospel of exercise needed more earnest preaching to the sedentary and closely confined than now. It is certainly sad to see so many lives being sacrificed daily to physical inactivity when prevention is so easy and simple. Medical men are more sensible of the evils of the lack of exercise, than any other class. and many of them know and concede the special advantages offered by walking. The foregoing has not been written therefore, with the purpose of telling our readers what they already know relative to the great and growing need of exercise as a means of saving and prolonging useful lives. They need little enlightenment on this score. But our object is first, to emphasize what is already known concerning walking; second, to lead medical men to study its remarkable value as a solution of

the exercise problem, and finally, to urge with all the earnestness at our command that physicians no longer dismiss the subject by merely advising their patients "to walk more," but in recommending this exercise even though it is simple to go into detail as thoroughly as they would with any other important remedial measure.

A Severe Loss to Sanitary Medicine—Just as we go to press word comes of the unexpected death of Walter Wyman, surgeon-general of the Marine Hospital Service. Although it was known that Dr. Wyman had been ailing for some time and recently had been on sick leave because of a carbuncle of the face, up to a short time before his demise, it was not thought that he was in any great or immediate danger. Consequently his death is a great shock to his vast number of friends and associates. Few medical men were more popular or better liked than Walter Wyman. One of the most genial of men, and endowed with a wonderfully attractive personality, he was welcomed in every circle, scientific as well as social.

Dr. Wyman was unmarried. He was born in St. Louis in 1848 and was graduated from the City University of St. Louis in 1866. He also had degrees from Amherst (M. A.). St. Louis Medical College (M. D.), Western University of Pennsylvania (LL. D.), and the University of Maryland. He had been in the Marine Hospital since 1876, serving at St. Louis, Cincinnati, Baltimore, New York and Washington. He was supervising surgeon-general of the Marine Hospital Service from 1891 to 1902, and since July 1, 1902, had been surgeon-general of the United States Public Health and Marine Hospital Service.

Always giving special attention to physical conditions affecting the merchant marine, Dr. Wyman had been instrumental in having many laws passed for the benefit of the seamen, and had been active in bringing about the establishment of sanitariums for consumptives and leprosy-investigating stations. He was author of numerous pamphlets connected with public health, and a member of the American and international medical societies.

At the last Atlantic City meeting of the American Medical Association, Dr. Wyman was seriously considered for the presidency of this great body of American physicians. But for the machinations and so-called exigencies of politics it is entirely probable that he would have been elected to this office. But it was not to be and although it was a great disappointment to Dr. Wyman's friends, who felt that he of all men merited this honor, Dr. Wyman himself bowed gracefully to the situation and gave his loyal and whole-hearted support to the successful candidate. This was distinctively Dr. Wyman's attitude in life, never to harbor ill feelings or allow anything to upset his poise as a physician and gentleman. Last year at the Los Angeles meeting he was honored by being elected president of the American Medical Editors' Association. Had he lived he would have presided at the forthcoming meeting to be held in Atlantic City early in June.

In 1893 he achieved what he considered one of the greatest accomplishments of his career when he succeeded in having the present national quarantine laws passed. In 1896 he built the home for tuberculosis patients at Fort Stanton, N. M. He had absolute control of all sanitary regulations in the entire United States, the Philippines, Panama, Porto Rico, and wherever the



WALTER WYMAN, M. D.,
Surgeon-General, U. S. Public Health and Marine-Hospital Service.

United States government ruled. He was one of the most powerful officials in the entire national government.

But the summons came and the curtain is rung down on a useful, purposeful life. Walter Wyman will be sadly missed, for it will be hard to find a man with the same signal ability and sense of proportion to fill his position. Throughout his years of activity he did a splendid work, conscious ever of his official obligations and yet never forgetting that he was living in an age that called for discriminating judgment and due regard for the opinions of others. In consequence, he was never dogmatic and dictatorial. Although a keen and scholarly thinker, he never failed to realize that the last word had not been written or said on any subject and that the discoveries of the morrow might change our whole view-point. In other words, Dr. Wyman was broad and liberal in his ideas and ever ready to accept the opinions of those who could speak with authority.

Of few men can it be more truly said that the world is better because he has lived. Walter Wyman is dead but his work belongs to posterity.

Is the old man worth saving? Economically he may be almost if not entirely worthless, from an aesthetic viewpoint his appearance may be disagreeable if not absolutely repellant, his idiosyncrasies may make him disliked and a trial to those who must associate with him, while his inability to accommodate himself to the progressive order of the day often entails difficult tasks upon those who look after his welfare. Yet humanity says he is a human being with the right to live and enjoy the blessings of life; sympathy says he is helpless and needs aid; gratitude says he has served mankind in one capacity or another while he was able, now mankind owes it to him to take care of him, make him happy and prolong his life. This applies as well to the physician as to the rest of mankind.

There is no string to the physician's self-imposed obligation to relieve distress wherever he may find it and prolong life however valueless such life may be. He may not shirk these obligations toward the aged because of the hopelessness of ultimate success, nor because his patients have idiosyncrasies, nor because his labors in other fields would be more profitable. His obligations toward humanity demand that he give to the aged the same knowledge, the same skill and care that he gives to the child and adult. If he obeys the demand of humanity alone to save and prolong the life of the absolute idiot, how much more readily and willingly should he obey the demands of humanity when joined by sympathy and gratitude, in favor of the aged. The old man has an intense desire to live, yet nothing detracts so much from his pleasure of living as the pains and discomforts that accompany old age. He looks to the physician to relieve him of his ailments and prolong his life. The physician who has neglected the study of geriatrics confesses to himself his inexcusable ignorance of senility and its diseases, while sympathy urges him to do something for the old man. He does something. It has all the chance of a guess. A right guess, and he brings happiness to a grateful old man. A wrong guess and his mistake is buried in the grave of his victim. This is the humanitarian aspect of geriatrics.

Geriatrics presents two other aspects as clearly defined as the humanitarian aspect.

The scientific aspect involves problems as interesting, possibly as important, as any in the whole realm of medicine. There is a practical side involving the prolongation and increase of the usefulness of the individual in the declining period of life.

Why do we age? Is there any controllable factor in the cause or process of involution? Is it possible to defer senility or restore vigor to the senile organism through artificial means? These are momentous problems. They bear upon the human race. They have engaged the minds of the most profound scientists and medical investigators for ages. Brown-Sequard's announcement of his elixir which would prolong life, aroused world-wide interest which continued for years after the unfortunate results of treatment destroyed faith in his remedy. Metchnikoff's theory is still under discussion, while his remedy is being employed throughout the civilized world.

Of more direct and immediate interest to the physician dealing with the aged are the causes and nature of the so-called diseases of metabolism which prevail mostly in advanced life. There is nothing unreasonable in the view that diabetes, gout, chronic rheumatism and even cancer are due to some perversion in the process of involution, that in the case of cancer the normal degenerative process in the affected tissue is interfered with, while in the other diseases the fault lies in the catabolic processes. But whether we determine the underlying causes of aging or not, it is certain that a more thorough knowledge of the anatomical and physiological changes in old age will cause us to change our views concerning the diseases of that period. "Cazallis' overworked aphorism needs only the element of truth to make it a medical axiom." The arteriosclerosis of old age is a physiological condition while arteriosclerosis in maturity is often a curable disease. The senile contracted kidney is not interstitial nephritis nor is the senile contracted liver cirrhosis. These and other senile conditions can only be learned by a scientific study of senility. This is the scientific aspect of geriatrics.

The material aspect of this branch of medicine can be dismissed in a few words. Enough has been said to show the importance of geriatrics but it must receive the recognition of the medical profession before the public can be made to understand its importance. It is a poor field for commercialism or self-exploitation, it is a rich field for scientific study and humanitarian effort. To the physician who is imbued with the spirit of scientific research, geriatrics opens up a world of possibilities. Sympathy is rewarded by a gratitude that only the aged to whom a new lease of life is granted, can show. Nor is the field entirely barren to those who seek more material returns for their labors. With the recognition of its importance and the development of its possibilities, when the verdict of "old age" ceases to carry with it an inevitable death-warrant, and instead, holds out a hope for temporary usefulness, it is more than probable that geriatrics will then take its place among the most important branches of medicine. In the meantime, let us encourage the pioneers who are blazing the way and building the foundation of the new science.

Fordham University has the distinction of being the first institution of learning to have a course devoted to the study of the diseases or disorders of old age, geriatrics as it has been termed. Dr. J. L. Nascher, a New York physician who deserves great credit for crystallizing the matter and organizing the department is, so far as we know, the

only lecturer in the world on the subject. The whole movement and every one connected therewith deserve great commendation and Fordham University is to be congratulated on the spirit of progress which has led to the establishment of a course that is bound to prove so important as soon as the world grasps its possibilities.

The recent mobilization in New York waters of the imposing ships and representative forces of our navy was a most impressive and instructive event. The deepest feelings of patriotism were aroused and many a person glowed with pride at being an American.

Aside, however, from the grandeur of the vessels themselves, one's interest becomes necessarily directed to the most important factor of all—the man behind the gun; and not simply the gunner alone, but each individual man connected with the fleet. To the medical mind, the one great thought so strikingly pronounced, is the excellent physical condition of the men.

Great strides have been made during the recent years in the medical care and supervision of the sailors. The marked prevalence of venereal disease in the navy has always been a great problem for the medical officers to deal with. Exposure to such infection is bound to occur, but now since a routine practice of examination and prophylactic treatment of each man returning from shore leave has been enforced, the venereal cases have been greatly reduced in number.

Venereal trouble is just one variety of the many diseases and affections which are encountered in naval life, yet its decadence most forcibly points out the good results which have been attained in a definite instance and emphasizes the value of enforced submission, to thorough, scientific and practical medical supervision.

The high standard of health in our navy most distinctly proves what can be accomplished under conditions where rules and regulations *must* be obeyed. It teaches the real worth and advantage to all of disciplinary hygiene maintained under the direction of competent medical men.

Sand-fly fever is another group now definitely separated from the class of simple continued fevers of unknown cause. This particular infection has been known in the hot dry season of warm climates for over a century, but its connection with an insect was not known until Doerr discovered it in 1908. An interesting review of the literature and experiments has been published by Lt.-Col. C. Birt, R. A. M. C., (*Brit. Med. Jour.*, Sept. 24, 1910) from which one gathers a very distinct impression that this widespread short fever, which by the way, is sometimes quite sharp and accompanied by digestive disturbances and diarrhea, is also present in America in summer, particularly in the hotter places. There is no mortality, and it is exactly such a disease as we are prone to put down to a "touch o' the sun," indigestion, a touch of malaria, or even a "threatened typhoid." We therefore should be on the lookout for the tiny insect, *phebotomus papatasii* or its cousins, and perhaps we may save some patients a lot of unnecessary dosing. The infective organism has escaped notice so far, and it really may be ultra-microscopic as it seems to pass through fine filters, but it may be big enough to see when we know how to stain it. There is a suggestion that it is a normal or pathologic parasite of some lower mammal, and only accidentally present in man's blood where it promptly perishes.

ORIGINAL ARTICLES.

THE DIVISION OF PROFESSIONAL FEES.[1]

BY

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By this, we obviously mean the division of fees paid by patients for services. Such services are usually of an exceptional character and hence require special care and training on the part of the person performing the work. In nearly all instances the custom applies to references, the latter being made by a family or general practitioner to one doing special practice. As a rule the transaction is a secret one, that is, it is not within the knowledge of the person paying the bill. Very often the refund is made as payment for some service which is largely mythical. Occasionally, and particularly in western localities it is done in the open.

Until within the past few years this was an almost unheard of custom. The general practitioner and the specialist each went his way, did his own work, collected his own fees, each honestly without thought of that "community of interest" which is now so prominently before us. At present this is changing. References are now being made, at least very often made where there will be some financial return. It is astounding to learn of the mighty headway this custom has recently made. As an illustration: In anticipation of preparing this paper, I was discussing this topic with one of our leading practitioners of medicine, a visiting physician to one of our prominent hospitals, a man commanding the general respect of our entire profession. He said substantially, "Dr., prior to Jan. 1st, 1911, I had asked nothing. Since then I have demanded such a percentage and I am getting it." I have selected this instance because of the standing of the man amongst his fellows, because of his hospital relations, and lastly, because of the standing of his co-workers in the hospitals—the men who are doing his work and dividing their fees.

The usual refund in these cases seems to be 20% to 50%. The custom applies almost wholly to fees for surgical operations. Of late, in certain places, it has been extended to consultation practice, both medical and surgical. I do not believe the seriousness of this situation has appealed to the bulk of the profession. Whether it be right or wrong, whether it be done in the dark or in the light, it is here. "It is in low places, it is in high places. It is the county, it is the state, it is national."

Let us consider the causes which have contributed to these conditions. The increased cost of living is a potent factor and does not need elucidation. We are told that overcrowding is largely responsible. It is claimed that one-third our number could do our work and do it well. This is probably true and would leave a much larger income for those remaining. But we are all here and must remain. And, we are here in such numbers that the income of the average man is much lower than it should be, so much so that he cannot live as he thinks he should without grasping all there is.

So much for mere overcrowding. You will pardon me if I ask why we are overcrowded? Too many medical schools is cited as a reason. The same cause that impels a surgeon to split his fee is in all probability responsible for the existence of many

[1]Read before the Staff Association of Williamsburg Hospital, September 11th, 1911.

medical colleges. I mean the search for prestige, the search for business and chiefly the search for money. Such colleges keep their standard at the lowest ebb, thereby inviting the greatest possible number of students. They also teach the least.

Again, the state requirements are said to be too low. When I began the study of medicine in 1894, about ten counts were required for a medical student certificate. Now seventy counts are necessary. That is to say, while it takes seven times as much preliminary education as it did fifteen years ago, we still have quite as many medical students. A few colleges have special requirements, such as a degree, but that has simply shifted their prospective students to other institutions.

It is further complained that our state examinations are too lax, that owing to the method of selecting questions, a candidate must in reality answer but fifty per cent. of the same correctly. This condition was remedied about a month or two since.

The medical school problem is being solved, the preliminary requirements have been increased many fold, the state test has been made more rigid and still the hordes are crowding in. If not these things, what are the causes? Briefly as follows: The unfortunate circumstance that a man is compelled to select a career at a period when he is most incapable of doing it, coupled with a general feeling among the laity that physicians earn a great deal of money by expending small efforts. It is common knowledge, that while it takes considerable money and much study to secure the degree of Doctor of Medicine, once attained it requires less ability, less study, and less actual knowledge to get along than in any other profession. I mean to get along "some way." In nearly all other callings, some one is paid to appraise a man's efforts, or at least there is some way to estimate his capacity. In medicine a man is absolutely his own master, and this power to control will ever appeal to sufficient young men and women to crowd the ranks, and this in spite of all laws and regulations to the contrary.

The tendency of so many practitioners to devote their time to specialties must not escape attention. For various reasons about as many as possible leave the general field and right here seems to be a real cause of fee-splitting. We shall pass this for the present, excepting to say that more are successful in general work, and that where you see one successful specialist, you see many that are scarcely earning a living.

The general man claims and with reason, that in a particular case his services are of equal value with those of the surgeon. In addition, he claims that the fee is just so much money that he is virtually giving the surgeon, for without the reference there could have been no fee. The surgeon retorts that he (the surgeon) has spent his years and his money in acquiring his skill and that he should not be asked to share its emoluments. He argues that the general practitioner should not receive money for something he has not done and is not capable of doing. He contends that it is the duty of the general practitioner to support him. Those are the main arguments. Of less importance might be mentioned the feeling that exists against many surgeons on account of their inability to limit their own fields, e. g., operating upon a patient in hospital, discharging him and referring him to his own office for future attention, such as dressings, etc.

Again, we have the hospital surgeon, who clings to general practice. He is a difficult proposition to discuss. He

cannot be expected to sacrifice his living, and he cannot hope to compete with the general man and still do his (the general man's) special work. This man gives no promise of becoming a bona fide specialist, he is content to remain a variable quantity doing neither the one thing nor the other well, for we must all agree that no one can be proficient in all fields of medicine. He lessens the income of all, thereby becoming a potent factor in the causation of division of fees.

Then, again, we have the young man who aspires to be a surgeon or specialist, or what not, at any rate he is satisfied to begin at the bottom, to be a drudge in the hope of attaining something real. How is this man going to compete if not by dividing his fees? Are we not aware that an operation has no fixed value? It costs the patient just as much for a novice as it does the finished product, at least they ask as much. If left to selection of patient, the older man would do all the work. Here is a likely spot for collusion between the general practitioner and the young specialist.

Closed hospitals have also contributed more or less to this custom. By limiting their staff to small numbers, they have necessarily precluded a large number of competent men who are now seeking returns.

Too much work in the past has been referred to special men. A great many little things could as well be done by the general man if he would but spend some of his spare time in preparation and if he did not have to contend with the erroneous idea among the people that no good result can be secured unless the work be done by a special man—an idea which the specialist has taken pains to impress upon the public. This latter condition detracts from the standing of the practitioner as well as from his income.

There are a few surgeons who take the opposite view of this situation and insist upon a division of fees as a matter of honor, and I believe they are honest. We are to have a large number of such before many years.

Lastly there are some men demanding a share of fees for the simple reason that they are aware that the custom exists. The physician mentioned in the early part of this paper belongs to this class.

There is a tendency to throw the burden of this custom to the man in general practice. Why I do not know, but let us analyze this for a moment. For the sake of argument let us say the income of the average active man is about five thousand dollars, and his surgical work about five hundred dollars, that is, work he refers. Should he get a refund of 40% or two hundred dollars, would that amount make any material difference? The answer seems simple. Whatever may be the cause of this condition, in our final analysis, we must in justice lay it at the door of the surgeon or the specialist. No start could have been made without his cooperation, and if it is now beyond his control, he is merely coming to his own.

We have now reached the most interesting part of our discussion: Is it wrong? Ask anyone who has given the matter no serious consideration and he unhesitatingly answers "yes." I propose to show you that this is a "two-sided" question and one demanding our serious consideration.

The medical profession is a peculiar entity, differing from all other professions or trades. It has for its foundation or basic principle the idea of relief of human suffer-

ing. It did not come into existence as a means whereby a man might work for profit. If we adhere to these ideas in action as well as in thought we have no moral right to traffic in misery to any greater extent than is necessary to meet our mere wants. We have no right to commercialize, no right to accumulate and manifestly no right to divide. This ancient ethical idea against commercialism is about the sum of the argument against the application of the same business ideas to medicine that apply to other professions. Prior to fifty years ago medicine was all mystery. It had no scientific basis. Since then it has made wonderful strides. It has become subdivided to such an extent that any one of a score or more of such subdivisions is ample for a man's life work. This is just where the change has been wrought. I take it for a self-evident fact that a man has the right to support himself and his family and to accumulate all he may as long as he is honest. If then, this work requires years and years for proficiency and at the same time other means of earning an existence are practically precluded, can there be any valid objection to a man's exacting the price? It is a gruesome thought, but is not a human life an asset and has it not an intrinsic value? More and more are civilized countries taking precisely this view and for this reason alone does medicine get any governmental support. Then why should any different line of conduct apply to dealing with life than with any other possession, particularly as all our efforts are spent in an endeavor to save that life? My point is that division of fees is simply commission applied to medicine and is not a "moral obliquity." A commission is a valid part of nearly all business. Surely no man accuses a real estate man of being dishonest simply because he pays a commission to another broker who makes a transaction possible. One attorney refers a case to another doing special work and retains a large portion of the fee, and still no one accuses him of being a criminal. In our profession there is too much of the "straining of the gnat" attitude. A man refuses to divide a fee because he thinks it is wrong. The same man refuses to put a value upon his services for an operation, charging as much as he can get and often more than the patient can afford to pay. In other words, he commercializes and he does it with a vengeance.

Physicians are not justified in overcharging one person to make up for our losses on another. Yet we do. We do a small amount of charitable work in our private practice but none in hospitals. Our ward work is part of our contract and does not contain an element of charity. We are amply repaid, still we use that as a basis for a price. We are not justified in charging one man more than another for the same operation simply because he has more means to pay. In morals an operation is worth just as much to one person as to another. A medical man is entitled to a fair compensation for his time and skill. The wealth of the patient should not be a determining factor. We violate all the principles of morals in these last mentioned instances, and rebel when some one demands a commission. Does it not seem absurd?

In financial affairs medical men are about human. They are seeking a large practice, want to be known as having such and want the size of it estimated in dollars and cents.

Should the practice prevail, what will be the result?

Will the specialist and surgeon suffer? Probably not. They will get a large amount of work that is now badly done by less competent men. They may be forced to do

more work but their income will respond to the application of business principles. There will be fewer specialists, but better ones. There will be a sharper dividing line between the general practitioner and the specialist. It will probably lead to some special system of education for special work.

Will it lead to operating by inferior men? The answer is that all grades of men are now operating.

Will it lead to unnecessary operating? I have enough faith in the members of our calling to say it will not. There is at present nothing to prevent such a practice and it is frequently done. The mere fact that another man was to get a commission would not necessarily contribute to the likelihood.

We must concede that the practice of division of fees is prevalent and that it is growing. Let us concede that it is wrong. What can we do to remedy conditions?

The causes largely suggest the remedies. Let us first discuss one possible remedy that has been advanced and that is "publicity." Some newspaper in Denver is collecting evidence against certain medical men with the promise to make publication of same. The County Society of Erie has suggested a similar procedure. Will it answer the purpose? It is just as likely to serve as a cheap advertisement. A patient is called upon to meet such a claim suddenly and usually when in sorrow and it matters but little to him who gets the money, so long as those dear to him get well. There is at present a feeling among many of the laity that fees are divided and to them "publicity" would be simply confirmation of their ideas.

What can be done for overcrowding? At present the requirements are fairly high and most expensive. There is a limit beyond which it is unfair to go and we have almost reached it. We have no right to make our requirements so high that the door will be closed to the self-supporting young man. We cannot abolish our bad medical schools, so there does not seem to be much hope along these lines.

We might expel a man from our societies; that would be scarcely any punishment.

All that we can do is to work within the profession. To a man who is thoroughly honest in his desire to stop the practice this might seem easy. All he has to do is to stop. "Absurd." He is too deeply involved if he has once been guilty. The feeling of the profession can be well judged from the following incident. The Society of the County of Erie sent circulars to five hundred and forty of its members asking for views on this subject. The supine attitude of the members of that society was shown by the fact that but thirty-one replies were received. The nature of the replies is not stated. It is a reasonable inference that the mass of physicians do not desire a change, and it is also reasonable to assume that conditions are about the same everywhere. As before stated the custom affects all grades of medical men and is going to be most difficult to reach. It takes more than ordinary courage to turn aside a financial proposition that involves a man's living. It is a small matter to the general practitioner, but a serious question to the surgeon and specialist, particularly if they are not well off financially.

I do not believe that we can change the general attitude of the profession, simply because it does not desire a change. But, we hope for some reforms. We need some system of education which will insure more proficiency, some better means of educating

along special lines, some method by which the graduate of today cannot at once become a competitor of the acknowledged expert. Then will the words, surgeon, specialist, etc., have a real meaning. How these things can be brought about I am not prepared to say, but if at all, it must probably be governmental. In a business way the general practitioner can improve conditions and add to his income. He should learn to charge for services rendered and not for number of calls. He should learn, as many are doing, not to let his patient pass from his immediate control. He can with perfect propriety assume the attitude of the attorney who employs a specialist to try his case. It might be difficult in hospitals but not in homes. The method is simple, he (the general practitioner) employs the surgeon to do the technical work, pays him and discharges him. Naturally the surgeon opposes the procedure because it lessens his importance; the physician, while not opposing it, fails to do it because it means work.

I apologize for the burden I have just inflicted. Do not necessarily conclude that I am in favor of fee-splitting. I am not just certain where I stand but until within a few months I have consistently opposed it. The discussion of the problem is recent and not enlightening. Personal investigation has found most of the sound arguments on one side, but still there is much sentiment in favor of a return to old ideal conditions. It would be better for the medical profession to practice honest open commercialism than to remain under our present cloud. There is a strong probability that the mass of the profession will remain supine and continue to drift along lines of least resistance until it finds itself beyond regeneration. At this stage the division of fees will be an unwritten law.

168 N. 6th St.

REMOVAL OF THE TONSILS AS A PROPHYLACTIC MEASURE.[1]

BY

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Upon inquiry, and search through the recent literature concerning the tonsil, it does not appear that due importance and emphasis have been given to prophylaxis among the indications for the operation. Further than this even, it occurred to me that the suggestion to remove any tonsil either partially or completely, preferably the latter, in childhood might be of sufficient suggestiveness to bring out a discussion among the pediatrists and the general practitioners, as well as those more especially interested in nose, throat and ear work. (This point has been brought out very positively by a pediatrist who stated that he did not think there was such a thing as an "innocent" tonsil).

It may be in going over the various textbooks and writings dealing with the present position held by the teachers as a whole in regard to the indications for the removal of the faucial tonsil, and with them the adenoids usually present, that I have failed to grasp the situation—certainly as noted later, they seem far from positive. Improvement in technique, new instruments of individual operations, questions of local and general anesthesia—and home, office or hospital as the place for operation are being constantly discussed in the journals. The type of operation and whether complete or partial removal is necessary seem to vary with the individual operator. The complete removal by the use of the scissors or scalpel with completion by the snare seems to hold the most prominent position at present and is the operation which I urge. Dr. N. H.

[1]Read before the Hospitals Graduates Club, New York, April, 1911.

Pierce of Chicago says in favor of the enucleation method that "The complete removal of the tonsillar tissue that is at the time, or is liable in the future to become diseased, with minimum risk to patient, constitutes an ideal in our operative technique."

Positive advice and positive indications, I repeat, are extremely hard to find, and I regret to say this is true in some cases in which a history of actual past or present inflammatory disease exists, and under the term disease, I include hypertrophy. The latter is put very strongly by one author: "Any tonsil which is visible in any marked degree later than the 14th year may be considered a morbid growth due to disease."

In a recent text-book supposed to be for the general practitioner as well as student, I find the following advice: "When frequent attacks of acute tonsillitis occur, and in the interval the tonsils are found not to be increased in size, it is well to advise such a patient to submit to a thorough cauterization of the tonsil." And again, when referring to a peritonsillar abscess: "Thorough eradication of the tonsillar tissue *often* renders the attacks of peritonsillar abscess much less frequent, even doing away with them entirely." This is certainly more suggestive than mandatory advice. He does say under chronic hypertrophic tonsillitis that treatment "consists in removing as much of the tonsillar tissue as possible." He does not fear the hemorrhage for he speaks of this danger in children to be very slight.

Another book (Kyle, 1907, page 452), somewhat older than the one from which I have just quoted, goes further. Here we find "In children and young adults the tonsils are usually large and unless they give rise to irritating symptoms or interfere with deglutition and phonation they require no treatment. This is equally true in advance adult life."

In soft spongy tonsils, the treatment is local, acids. Caseous tonsils should be removed. Page 488, "It must be borne in mind that in children the tonsils are normally large and that because the gland structure extends beyond the pillars of the fauces, the enlargement is not necessarily pathological." Of course, I do not know how he can be sure of this.

Again we find, Oct. 29th, 1910, *Journal of the American Medical Association:* "Many tonsils seen by the general practitioner with every appearance of serious pathological condition never develop local symptoms." How he can be positive of this I do not know, for such a position in our present advanced study of infections occurring through the medium of the tonsils seems hardly possible. I have repeatedly seen hypertrophied tonsils with no history of inflammation but which after removal have been found to have their crypts filled with caseous material. No one, of course, can say at what time an acute infection may occur in a tonsil thus diseased, bacteriological examinations of this material having frequently denoted the presence of numerous bacteria, any one of which might start their own special type of inflammation. From my experience last summer in Vienna, seeing but one tonsillar operation in a four weeks Chiari course, I would not think that they were as positive concerning the necessity for an operation as we are in this country. On the other hand, I am told that the tonsillar work in London is fully as advanced and radical as that done by our most enthusiastic operators.

What, then, may be considered as the condition of the faucial tonsil demanding operative interference?

First. All hypertrophies. There is no way of determining the direct relation between the volume of tonsils and the number or virulence of the bacteria in the crypts, and while infected tonsils are dangerous and may be a menace to the ear, the obstructing tonsil, by its effect on the return blood current frequently produces tubal congestion or tubo-tympanic congestion, or by occlusion of the tube causes otitis media, C. A., followed in turn by otitis media, C. C.

Second. All diseased tonsils, submerged or hypertrophied, and here, if you will, we may consider one authority already quoted, "That every tonsil which is visible in any marked degree after the fourteenth year, may be considered as a morbid growth due to disease. P. 609, *Journal of the American Medical Association,* 1909.

The following classification would seem to me to cover this class of cases.

a. Acute lacunae tonsillitis.

b. Peritonsillar abscess.

c. Mycosis leptothrica.

d. Malignant growths.

e. Benign growths, polypi, cysts, lymphangeonia.

f. Chronic cervical adenitis.

g. To free tonsil from Klebs-Loeffler bacilli persisting.

h. Local tubercular disease.

i. Tubal catarrh.

j. Tonsillar voice.

k. Dysphagia.

Here I wish again to emphasize that an hypertrophied tonsil is equally as dangerous as a known infected tonsil.

Third. As a prophylactic measure to prevent infections entering the system by way of the tonsil, and produced by tonsillar disease. This, above all, should be our surest and safest guide when in doubt. Knowing the many lasting conditions that may follow a diseased state of the tonsil, when by removal we can prevent the permanent and serious damage this condition may cause, is the patient not entitled to immunity from tonsillar infection? There is no doubt that the less radical measures may help us in a degree. The most important of these seems to be the removal of the superior or villa lobe, opening the crypts draining into supra tonsillar fossa with a sharp knife and applying cautery.

Under the general head of prophylaxis we have:

A. General Infections:—

Streptococci,
Staphylococci, } Almost constantly present in the crypts.
Pneumococci, }

B. Rheumatism:—

Certain forms of rheumatism.

One observer notes premonitory tonsillitis in 21% of acute arthritic rheumatism.

C. Tuberculosis:—

Studies in children where the pulmonary tuberculosis begins around the bronchial glands. Tubercle bacilli have not been found often in tonsils, they may have failed to arrest the invasion and so been taken up by the cervical glands.

D. Myocarditis; Nephritis:—

Occur more as sequelae than at the time of the acute infection. I make it a rule to examine the urine at the time of and following the attack.

E. Acute Infections:—

Acute infections such as diphtheria, scarlet fever, and measles. Here again it seems to me begins our responsibility in urging the parent in his decision regarding the operation. While I could not find any statistics regarding occurrence of scarlet fever and diphtheria in children in whom a radical operation had been done, this may open up a study of these cases in the future. Two

men connected with a contagious hospital did say that they did not remember a single case of scarlet fever or diphtheria without tonsillar disease, and many were advised to have an operation following their convalescence.

F. Carriers of Disease:—

Lastly, supposedly unfavorable results of tonsillectomy. If as claimed by various writers the tonsil has a specific function this would naturally cease on complete removal. This function, however, is still problematic. The tonsil is normally small at birth, supposed to reach full development by eight years and then begins to atrophy.

In the most recent article on the function of the tonsil (*Archiv for Laryng. und Rhinol.,* xxiii, 1910, p. 117). If the tonsils are equipped with a defensive mechanism, they would be the last part of the mouth and pharynx to be infected. Primary infections of the tonsils are as frequent as secondary infections. Therefore, it is more likely that the tonsils give entrance to pathogenic organisms, and again we know that at the time when the tonsils are supposed to be most active the infectious diseases are most likely to attack children and especially such children as have a hyperphasia of the lymphoid tissue.

I am of the opinion,

1. That every infected tonsil should be enucleated.
2. That all hypertrophied tonsils should be treated in the same manner.
3. That the differentiation between the cases of hypertrophy which should be and those which should not be enucleated is a matter of the most careful personal judgment and that the positive knowledge that it is an accepted prophylactic measure should be a strong argument in its favor.
4. That it is a hospital operation, and in children should always be performed under ether narcosis.
5. Chances of recovery if infectious disease occurs are greatly enhanced.

40 E. 41st Street.

OCULAR INFLAMMATION AND NEPHRITIS.

BY

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Philadelphia, Pa.

There is a form of conjunctivitis, often accompanied by keratitis and iritis, which is not caused by bacteria or syphilis, and is commonly called "rheumatic," because some patients so afflicted complain of pain in the muscles. The salicylates have a good effect in many of these cases, and by this effect the diagnosis of "rheumatism" is apparently confirmed; but the beneficial effects of the salicylates are not confined to rheumatism alone.

In 26 recent cases of this so-called rheumatic inflammation of the eyes I found one instance of arthritis deformans, one of acute muscular pain that yielded quickly to salicylates, three other cases (one 24, one 60, one 65 years of age) that reported some recurrence of muscular pain. The other 21 patients gave no history of symptoms that could be called rheumatic.

The age of the patients was: one (a girl) 10 years of age; seven (6 women, 1 man) between 24 and 35; seven (3 women, 4 men) between 37 and 50; eleven (9 women, 2 men) between 50 and 70—7 men and 19 women in all. All required distance glasses; 16 had no glasses; 10 were wearing incorrect distance glasses. Consequently there was marked eye-strain in all these patients.

The notable symptom, however, is that more or less nephritis was found in all except one, and in that case (No. 11 below) only one examination of the urine could be made.

The cases are as follows, and in each instance one average urinalysis is shown:

In seven of these cases the renal inflammation was apparently only parenchymatous, but anyone with experience in diseases of the kidneys knows that a nephritis

which is, from the urinary signs, only parenchymatous is not seldom accompanied with severe intoxication. These cases of mine did best under renal treatment; and a consideration of them suggests a search for renal congestion or insufficiency in all similar eye conditions. Either the renal congestion is a cause of the eye inflammation, or the same cause which is irritating the kidneys is apparently at work on the eyes.

It is difficult for an oculist to examine such patients thoroughly. If they are referred to him by a general practitioner, a urinalysis is likely to cause resentment, as an attempt to go beyond the specialist's province. When the eyeman asks for a urinalysis, he often receives a misleading report, because few men interpret the microscopic findings correctly. Small casts float near the surface of a specimen and are missed; epithelium, which means much to the patient, means little or nothing to many observers; the most dilapidated microscopes we have are kept for urinalysis when we should use the best; an iris-diaphragm is essential to exact urinalysis; and so on. I have frequently seen the urine of patients within three or four days of death from Bright's disease reported as normal by hospital residents.

2228 So. Broad St.

URINALYSIS.*

No.	Sex.	Age.	Specific gravity.	Albumin.	Casts.	Epithelium.	Remarks.
1	F.	10	1.010	none	few small granular	considerable	thyroid slightly enlarged.
2	F.	24	1.016	none	none	very much	.....
3	F.	24	1.028	none	few small granular	very much	.....
4	F.	26	1.030	none	none	very much	.....
5	M.	30	1.022	none	few sm. leucocytic	much	.....
6	F.	35	1.022	none	none	much	.....
7	F.	35	1.011	none	none	much	arthritis deformans
8	F.	35	1.018	none	none	much	.....
9	F.	37	1.020	none	many sm. granular	very much	.....
10	M.	38	1.019	none	many sm. gran.	much	.....
11	M.	38	....	....	.....	.....	kidneys apparently sound
12	M.	48	1.018	none	few sm. gran.	considerable	.....
13	F.	49	1.004	none	few sm. gran.	much	many recurrences
14	M.	49	1.022	none	many sm. gran.	some	secondary glaucoma
15	F.	50	chronic Bright's disease			.....	retinitis
16	F.	62	1.021	none	none	much	.....
17	F.	53	1.029	none	many sm. gran.	very much	.....
18	F.	59	1.015	none	few sm. gran. and leucocytic	much	Bell's palsy
19	F.	60	1.020	none	many sm. gran.	much	.....
20	F.	62	1.018	none	few sm. gran.	much	.....
21	M.	63	1.020	trace	many sm. gran.	some	.....
22	F.	65	1.019	none	many sm. gran. and leucocytic	much	recurrence
23	M.	65	1.020	none	few sm. gran. and hyaline	considerable	.....
24	F.	69	1.014	none	few sm. gran.	much	.....
25	F.	69	died of Bright's disease			.....	.....
26	F.	70	1.015	none	none	much	.....

*Since these notes have gone to press I have seen two more cases with the same renal symptoms.

PROFESSOR METCHNIKOFF'S MISSION TO SIBERIA TO STUDY THE PLAGUE.

BY SPECIAL CORRESPONDENCE.

To the north of the Caspian Sea on both banks of the Volga there lies a country of desolation and gloom. Far as the eye can reach a naked soil, bare, stripped almost entirely of all vegetation, interrupted here and there by some salt lakes or a small region of wells around which the nomads camp, then, again the desert, infinite, desolate—this is the Steppes—and it is also the only part in Europe where the plague rages, where, so to say it has its seat. This melancholy country is inhabited on the left bank by the Kirghiz of Turkish origin, the larger part of their nation being in Asia and forming in Europe only the extreme "advance guard" of the tribes constituting



Fig. 1. Prof. Elie Metchnikoff, on board the "Ermoloff," on his way to Russia. From left to right is Mme. Metchnikoff, Prof. Metchnikoff, and a niece who accompanied him.

a small division of the "small hordes." Kalmouks and other lesser tribes occupy the right bank of the great Russian river.

In 1878 to the terror of Europe, the plague broke out in these parts, in the village of Vetlanaa. In the course of one single month several villages were invaded and almost entirely devastated. The mortality, which, at the commencement, had been nearly one-half, numbered nine sufferers out of ten. In a few days a village lost 520 inhabitants out of 850, and it was then that the plague took permanent hold. It never ceases its ravages, and although its activity lessens, it claims its victims each year with a terrifying regularity.

About the middle of May, 1911, a scientific Mission, organized by the Pasteur Institute, and having at its head the celebrated scientist, Elie Metchnikoff, set out for the Kirghiz Steppes with the object of studying the origin of the plague. This Mission included amongst others, Dr. Salembeni, Dr. Barnet and a young Japanese physician, Dr. Yamanounin. At Moscow several scientists joined the Mission and quite a local expedition was formed at Astrakhan, the chief point in the vast territory of the Steppes.



Fig. 2. A Kirghiz home on the barren Russian Steppes. Cooking is largely done out doors, and the illustration shows the housewife heating water in a samovar.

The Mission had a double plan, that of studying the plague amongst the Kirghiz on the left bank of the river, and also the propagation of tuberculosis in the Steppes on the right bank of the Volga. Above all it was necessary to assure the public at large that it had nothing to fear from the Kirghiz plague. In any case the plague will never extend to Europe from these coun-

tries since every sanitary precaution is now taken, and the distances are so great and travelling such a difficult matter, that there is practically no communication between the different regions. Under these conditions any spread of the scourge to other countries is quite improbable. The direct

self in a virulent pulmonary form. Persons stricken by it are irremediably lost. Often one sees whole families entirely swept away, mowed down by this disease which swoops on its victims. Where does it come from? It is unquestionably a significant fact that the first cases are often



Fig. 3. The "kibita" or tent of Dr. Salembeni, a member of the Metchnikoff Mission.

causes of the plague have not as yet been definitely established by the Mission, for much work and study remain unfinished. A large part of the scientific results have been published however in the annals of the Pasteur Institute.

All that can be said here is, that the plague amongst the Kirghiz manifests it-

observed among the persons who hunt ground squirrels (a species of mammiferous rodent of oriental Europe) the fur of which is in great demand. While it is true that nothing suspicious has been found in the specimens of squirrels taken by the Mission, this does not prove anything. It is well known how long a time it required



Fig. 4. Transportation on the Russian Steppes. Bringing water for use by the Metchnikoff Mission.



Fig. 5. From left to right, a Kirghiz interpreter, a Kirghiz physician, Dr. Tchambalkoff, and Dr. Klanizky of the Mission.



Fig. 6. Hunting for fleas on those attending the Fair at Ahouna.



Fig. 7. The building used as a laboratory by the Metchnikoff Mission. To the left is the Japanese physician, who was a member of the Mission, and his Kirghiz helpers.



Fig. 8. Hunting for ground squirrels. Pouring water into the burrows drives these little rodents to the surface.

to discover the microbes of the plague in the rats of Mongolia and the Transbaikalee. The propagation of this Russian or Siberian type of the malady from family to family is made in all likelihood by direct contagion, thanks to the customs prevalent amongst these nomadic tribes, as for instance, at the celebration of a death by religious rites. When a member of a Kirghiz family dies, relatives, friends, neighbors from far and near hasten to pray, dance, eat and drink on and around the grave of the deceased. If he has died of the plague, propagation of the disease is unavoidable. Happily the local physicians designated by the government now try to supervise these affairs and when a case of the plague shows itself they repair to the spot and attempt to isolate the families who have taken part in these funereal festivities. As a result, at the present day the propagation of the plague never assumes considerable proportions.

The first enquiry into the plague situation by the Metchnikoff Mission was made at Ahouna in the centre of the Steppes. The Kirghiz chiefs furnished some valuable information, thanks to which the Mission was able to collect a mass of interesting facts and data. Knowing that parasites such as fleas, lice, etc., play in a general way an important part in the propagation of the plague, the Mission profited by its sojourn at the Fair at Ahouna to procure a certain number from the bodies of some poor Kirghiz (see



Fig. 9. Burning corpses of plague victims after autopsies and examinations.

Fig. 6—the "hunt for lice"). At the same time the Mission was able to obtain a large amount of epidemiological information which assisted them greatly in their later researches. The Mission repaired afterwards to *Straka Beck—Mohamed* and the Hassaia where the plague had raged the preceding winter. The Russian physicians, Messrs. Kladinkzu, Goss and Kolgoff were able to be present at the first exhumations. These were two corpses of Kirghiz who had died of the plague in January and on whom an autopsy was held. The purpose was to find out if the microbes were yet living. The deaths had taken place during the winter in the extreme cold, which would prevent decomposition and thus present conditions more or less favorable to the conservation of bacterial life. The analysis of the organs proved however that the microbes had disappeared.

The Mission was later able to sojourn at Jaouli, a spot where the plague was still raging, and there perform autopsies on the corpses abandoned in the Steppes. It was thus possible to send the spermophiles captured in the Steppes, direct to Paris, where they can be studied under the most favorable conditions. The journey was accomplished without any mishap and the Mission bids fair to prove a complete and gratifying success from every standpoint. Soon the result will be determined and given to the world. It is not too much to expect that humanity will receive great and far reaching benefit.



Fig. 10. Departure of Prof. Metchnikoff and party from the Straka Beck Mohamed.

SOME SUGGESTIONS IN PREVENTIVE MEDICINE.[1]

BY

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The subject of preventive medicine is one that is receiving vast attention, not only from medical men but from the laity, so that, in recent times especially, societies for the prevention of tuberculosis, alcoholism, absinthism and drug addictions, adulterations of food and drink, as well as hygiene, peace, and so forth are being widely established. During the coming year not only state, national, but several international conventions will be held for the prevention of disease and uplift of the race; and for these purposes vast sums from different sources have been, and will continue to be expended.

Laboratory research has through the introduction of serums, antitoxins, etc., achieved much in the prophylaxis and cure of disease.

The elimination of certain diseases however, cannot be found in the dead house or in the laboratory, and the investigator who expects in all cases to do this is looking through the wrong end of the microscope. Nor does the discovery of the specific cause of a disease, whether it be a bacillus or some chemical substance, always mean that the disease will be speedily eradicated. The causes of certain diseases are well known, but obstacles not infrequently stand in the way of carrying out the necessary methods of prophylaxis into effect.

For instance we have a simple means of preventing dog bites and hydrophobia by enforcing the muzzling law. In Germany and England where the muzzling law is enforced, the disease is practically exterminated. There still exists scepticism in the minds of a few as to the existence of hydrophobia, but unfortunately it is a stern reality, and differs materially from hysteria in that the patients invariably die in hydrophobia—while they usually get well in hysteria. The distinction is certainly of no little importance to the human family. While we may not favor the method adopted by the young Turks in ridding Constantinople of its pest of dogs, yet Brooklyn, that good city of churches—and dogs, sorely needs some efforts in this direction. Our Board of Health was apparently in earnest not so long ago in its attempt to solve this problem but they met with so much opposition from the public that almost nothing could be accomplished.

Typhoid fever is all too prevalent in certain quarters yet the means of its prevention are well known.

Over two hundred thousand people were stricken with cholera in Russia during the past year, of which number one hundred thousand succumbed. This state of affairs can and ought to be prevented with proper sanitary regulations and enlightenment of the public along the proper channels—instructions as to disinfection of clothing, utensils, bed clothing, the use of boiled water not only for drinking and washing but for cleansing the teeth, the same precautions in short as with water suspected of contamination with Eberth's bacillus.

It is alleged that by means of pamphlets and otherwise the inhabitants of infected districts in the Russian epidemic were thus properly instructed, but in spite of this the simplest precautions not infrequently went unheeded or were actually opposed.

[1]Read before the American Medico-Pharmaceutical League, May 22nd, 1911.

At the time of the cholera epidemic in Hamburg those who used the water of the contaminated Elbe were speedily stricken, while those who lived in Altona, a suburb of Hamburg, and used filtered water of the Elbe, mostly escaped; and yet many disregarded the lesson that was so apparent.

The sacred pools in India, the pilgrimages to Medina and Mecca, the National Russian Fair of Nijni-Novgorod, all continue to serve as distributors of the infection, although the means of reducing the dangers have been repeatedly published broadcast.

This condition cannot be tolerated much longer, and since the specific cause of the disease is well known, efforts in this direction must be given not only national but international attention.

In the case of yellow fever the United States Yellow Fever Commission so revolutionized the theories of prophylaxis and quarantine that the disease has been absolutely eradicated from Havana.

Everyone is familiar with the fact that this was done, 1st, by destroying the breeding places of the mosquito—the culex fasciatus—which serves as the intermediate host, and, 2nd, by screening in all newly reported cases, thus controlling the sources of infection.

In the same manner considerable progress has been made in the control of malaria by destroying the breeding places of the anopheles. In this disease the cause, the *plasmodium malariae* of Laveran, is known, while in yellow fever although there are several claims as to the discovery of its germ, the question remains unsettled.

Sanarelli of Montevideo has described his bacillus icteroides, Sternberg the bacillus X, while Durham and Meyers, of the Liverpool Yellow Fever Commission, describe a small bacillus resembling the influenza bacillus.

In 1881, Charles Finlay made the highly valuable suggestion that the disease might be transmitted to man by the bite of a mosquito. King, of Washington, on the other hand was the first to suggest that the malarial parasite is transmitted by mosquitoes. Ross showed that the parasites developed in the body of the mosquito, and that the infection in birds was thus transmitted.

James Hardie, writing in 1779, "An Account of the Malignant Fever, lately Prevalent in the City of New York," and referring to the epidemics of yellow fever in 1798 and 1795 in New York City, quotes S. L. Mitchell's letter to him as follows: "I consider cleanliness in our persons, clothing and habitations, to be a matter of moral obligation; and the punishment which Providence has wisely thought proper to inflict upon those who violate this law is sickness, not infrequently terminating in yellow fever, pestilence and plague. It has been asserted with the utmost positiveness that yellow fever has been imported from the West Indies and plague from the Levant, while at the very time these assertions are so confidently made by some among us, the fact of local origin in those very places and countries is flatly denied by the people who dwell there. They, like our own countrymen, 'think their nastiness is sweet' and cannot be persuaded that it has anything unhealthy or noxious about it."

Whether Mitchell's view as to the origin of the yellow fever at that time in New York City was right or wrong, he certainly made a strong plea for sanitation. But neither our own countryman, Hardie, nor the illustrious French physician, Louis,

whose careful researches on the morbid anatomy of yellow fever in the epidemic of Gibraltar in 1828, suspected the mosquito as playing any part in its etiology.

Certain diseases are bred in institutions, i. e., in prisons, asylums, almshouses, convents, etc.

The occasional occurrence of beri-beri in institutions where overcrowding prevails has been noted. Bellevue Hospital occasionally gets a few cases of this disease usually from South American ports, and I can recall having seen over twenty years ago a couple of cases as a student in the clinic of the departed Alfred Loomis.

I have seen quite a few cases of multiple neuritis in our Brooklyn Hospitals, and I cannot see any resemblance between them and beri-beri, especially not of the "wet type" of this disease. Obviously, beri-beri has distinctive features of its own.

Takaji has caused the disease to disappear from the Japanese navy by increasing the nitrogen and lessening the carbohydrates in the diet. In the same way, raw fish or improperly prepared fish, ascribed as causes by Miura and Grimm, have been likewise excluded.

Fales, (*Jour. A. M. A.*, March, 1897) reports ending an outbreak successfully in the Manila prison by adding fruits and fresh vegetables to the diet, these having been excluded from the dietary on account of cholera previously occurring. A recent editorial in AMERICAN MEDICINE says: "The *phaseolus radiatus* a common plant in Java has been reported to have been used as a prophylactic or cure ever since the 17th century."

Baelz and Scheube consider the disease an infection and that it may be conveyed from one district to another. Ogata of Tokio (cited by Gilman Thompson) believes the disease to be due to a bacillus.

The Dutch physicians (cited by Osler) showed that in the Java prisons the proportion of cases is 1 to 39 where the rice is eaten completely shelled, or 1 to 10,000 where the grain is eaten with the pericarp.

Bad hygiene, overcrowding and improper food are after all the important factors whether we are dealing with beri-beri or scurvy.

In British India, Manchuria, Astrakhan and the Volga Valley, the bubonic and still worse, pulmonic plague, hold sway, an ominous reminder of the famous Black Death of the 14th century.

The part played by rats, mice, marmots, dogs, flies, and according to Walker in India, even bed bugs, but especially fleas, in this disease is well known.

It is alleged that there is a special rat flea producing bubonic plague, while a special variety of marmot flea produces the pulmonic type. When the dead bodies of the rat and marmot grow cold the fleas depart and often attack the human body.

The bacillus of Oriental plague—the *bacillus pestis*—was discovered independently by Kitasato and Yersin in the Hong Kong epidemic of 1894. Yersin long ago demonstrated the *bacillus pestis* in the body of the flea.

Simond showed experimentally that fleas leaving a plague stricken rat may and often do transmit it to a healthy rat.

Josiah Brewer, a missionary, who resided in Constantinople in 1827 when plague prevailed in the Levant, although not so severely as in 1812 or 1778, says in his book that "the fleas and other vermin are no small inconvenience. Some of my friends have ceased to struggle with them, as a hopeless evil; but I cannot yet refrain from a regular morning's effort, to destroy fifty or sixty from my bed or

clothing. Do not think me extravagant in my estimate of the numbers. I have more than once had mathematical demonstration."

The physicians at that time no more suspected the part played by fleas in the transmission of this disease than did this missionary.

He further says: "I have alluded to the filth of the city, and I might have spoken of it under the head of antiquities, for I presume it dates as far back as the time of Constantine."

It need hardly be said that flies alighting on typhoid stools and then on food stuffs are a prolific source of transmission of typhoid fever, or dragging tubercular sputum to the food, or again alighting on milk condensed or otherwise they carry germs with them and are believed by certain observers to be a potent cause of fatal infantile diarrheas.

In the same way that fleas play their part in the transmission of plague so in typhus fever fleas transmit the infection according to Matthew Hay.

In an epidemic in Aberdeen he showed that nearly all the patients were flea-bitten, and care was exercised to distinguish the flea bite from the eruption of the disease.

Those who were flea bitten were engaged in carrying or attending patients, as certain nurses or the ambulance driver or those who were nearby when the patient was cleaned. None contracted the disease after attending a patient that had been cleaned.

Hay recommended that the house staff wear closely fitting overalls, boots with the trousers tucked in, and that the neck, wrists, ankles and boots be smeared with a solution of eucalyptus in olive oil. When this was done none contracted the disease.

According to Nicolle in Europe, Ricketts and Wilder in Mexico, the body louse is responsible for the spread of typhus.

The observations of these last named investigators were made in Mexico, where the tabardillo or Mexican typhus—probably identical with the European typhus—always exists.

Dr. Rickerts was stricken with this disease and succumbed, adding his name to the long list of physicians who have thus sacrificed their lives in the interest of science. In cases where overcrowding or confinement in close quarters exists, coupled with filth, favoring the multiplication of the body louse, the disease spreads much more rapidly.

This theory would lead us to believe that the disease is not contagious, or that the fomites even in closely confined quarters do not transmit.

It also refutes in a measure the "starvation theory," although in the potato famine in Ireland when scurvy often coexisted from 1816 to 1819 over eight hundred thousand individuals, a big percentage of the entire population, were stricken. A good harvest in 1818 caused a prompt subsidence of the epidemic.

From all this it is apparent even in the absence of a demonstrated germ that lack of personal hygiene, deficient or improper food supply, and overcrowding in ill ventilated dark quarters are favorable to the propagation of this disease. Osler cites the local outbreak in 1877 in the House of Refuge of Montreal, where the overcrowding was so great that at night there was not more than 88 cu. ft. of space to each person. He saw a few cases among Lithuanian laborers in 1901 in Baltimore.

In the military prison of Ft. William, the famous Black Hole of 1756, where 146 persons were confined in 5900 cu. ft. of space with two small windows on one side, 123 prisoners were found dead the next morning.

In the case of the "Londonderry" which left Sligo for Liverpool (cited by Harrington) 200 steerage passengers were confined over night in a space of 18x11x27 ft. with no means of ventilation. When they were released the following morning, 70 had expired. At Austerlitz 300 captured soldiers were confined in a small cellar and within a few hours 40 were dead.

Although these cases are extreme examples of overcrowding, nevertheless there are numerous confined quarters used as human dwellings, the effects of which although somewhat slower are just as disastrous.

The recent description of a symptom-complex very much like typhus fever, described by Dr. Brill of New York and known as Brill's disease arouses a suspicion in spite of its mild character that it is a modified or attenuated form of typhus fever. The disease appears to have occurred chiefly among Russians or Russian Jews.

In 1909 typhus fever was epidemic in 22 prisons in Russia. Up to the end of March of that year three thousand cases occurred among prisoners and 250 cases among officials.

In the same way tuberculosis is still bred in prisons to a deplorable extent, and if Robert Ingersoll speaks of crimes against criminals, this is a crime against all elements of the population, in brief, against humanity; and it demonstrates the error of expending vast sums in the cure of the disease so long as we allow the breeding places to exist. As the small dark cells, one of the errors of an antiquated penal system, breed tuberculosis, so too do the dark ill ventilated rooms of our congested tenement districts. These factors have been and always will be powerful in the causation of the disease, aided by the bacillus tuberculosis of Koch.

The National Association for the Study and Prevention of Tuberculosis have referred to this phase of the subject. Valuable studies along the same line have also been made by the Henry Phipps Institute.

The prisons have been and still are schools of delinquency. Bianchi, the distinguished Italian psychiatrist says in his text book that he stated this before the Italian Chamber of Deputies. He cites Dril as confirming this. Kowalewski asserts that ten thousand adolescents are each year made depraved and prepared for a career of crime by lessons received in prisons.

According to Vironboff, out of 140-000 imprisoned annually in France, 129,-000 return to society more depraved than before.

Sociologists are aware that alcohol and poverty go hand in hand in the causation of insanity and crime.

Improper environment even in the public schools may be a source of delinquency.

Hereditary criminal instincts probably exist, but even here environment may influence for good or evil.

Among the writers in France on the psychology of crime, criminal anthropology, hereditary criminality and other topics on crime and criminals were Lanvergue, Ferrus, Lucas, Lacassague, Tarde, Guillot, Joly, Boal, Riant, Corre and Francotte. In England, Winslow, Clapham and Clarke,

Maudsley, Thomson and Nicholson. In Germany, Benedikt, Flesch, Sommer, Knecht, Moelli, Kraus, Sander and Richter might be mentioned.

In Italy the name of Caesar Lombroso stands pre-eminent while other writers of note in that country are Garofalo, Tomassia, Marro, Ferro, Sergi, Roseri, Bono and Giacomini.

In our own country, Sharp of Indiana has proposed and practiced the section of the vasa deferentia for criminals and the mentally defective as a means of preventing their further breeding. To me, however, segregation, prohibitory marriage laws and humane corrective institutional methods appear more rational. The feeble minded children are a great source of anxiety to their parents, and only recently a boy was brought to me whose father stated that the little fellow not infrequently left their home in Elmhurst to be found in Jamaica or elsewhere, hitching on wagons and running after automobiles. These children are a public menace, and the Letchworth village plan which aims to keep them busy on the farm, and to give special instruction to suit the individual, seems best adapted to the management of this class.

Since we have many educated criminals, education unless directed toward the *morale* where it is most needed is not in itself as effective a preventive factor of crime as may at first thought appear.

The medieval dungeon, lash and starvation methods are productive of disease and moral degeneracy. The history of the flagellants is well known, a fact to which our large cities still attest.

In the same way that heredity was at one time considered the prime factor in the causation of tuberculosis, an error which cost many lives, so I believe some criminologists are in error in laying too much stress upon this factor in the etiology of delinquency.

That the moral tone may be reduced or even obliterated in hysteria, epilepsy, insanity and other mental maladies there can be no doubt; yet it need hardly be stated that penal institutions are not the place for the treatment of such maladies. Georges Clemenceau, ex-premier of France, in one of his letters to the *New York Times,* was impressed with the open air or farm method of treating the insane in one of our South American Republics. He naively states in referring to this subject what I would like to reiterate here and that is, not to be frightened at its importance. It has been proposed to take our vagrants who are sufficiently numerous to constitute a city by themselves, and place them on a farm colony similar to the Witzwil or Swiss plan. This ought to be and is approved by different charity associations in this and other cities.

As all civilized nations are now taking an active interest in institutional and other reforms in which the problems of tuberculosis, typhus, scurvy, beri-beri, insanity, the great venereal scourge, hygiene, sociology, and economics, uniform state legislation and what not, are intimately linked, I feel that we are on the threshold of a grand awakening which will show us as never before how best to uplift the race and promote the welfare of all humanity.

573 Decatur St.

The will is free;
Strong is the soul, and wise and beautiful;
The seeds of God-like power are in us still;
Gods are we, bards, saints, heroes, if we will!

—*Matthew Arnold.*

ADRENALIN CHLORIDE IN THE TREATMENT OF CARDIO-VASCULAR COMPLICATIONS OF LOBAR PNEUMONIA.[1]

BY

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I have presumed to consider this subject not because it is a new one, but because, as a result of the study and observation of cases of lobar pneumonia and especially those accompanied by cardio-vascular failure and pulmonary edema in which we have used adrenalin chloride, I have been impressed with the belief that we can establish a definite clinical picture the presence of which will immediately suggest the administration of adrenalin chloride, while the absence of this picture will be as quickly recognized as a contra-indication for this plan of treatment.

The physiological action of this drug is definite and yet so pronounced that favorable results can only be obtained by using it in carefully selected cases; otherwise very unfortunate results will follow its indiscriminate use, especially in cardio-vascular failure and pulmonary edema accompanying lobar pneumonia. In considering this subject we have excluded all complications and causes of death other than those directly related to the cardio-vascular system. Before considering the administration of adrenalin, I believe that we should separate our cases of cardio-vascular failure with pulmonary edema or impending edema, into three groups, each group having a distinct clinical picture.

[1]Read before the Society of Alumni of Bellevue Hospital, April 5th, 1911.

GROUP I. *Cardio-vascular failure and pulmonary edema resulting from toxic paralysis of the centres of the heart.* This group is small in number and usually occurs in the course of pneumonia suddenly and without warning, resulting in death in a short time, the heart refusing to respond to any form of treatment or stimulation. These cases do not present any definite premonitory symptoms either of acute dilatation or loss of control of the peripheral vessels.

GROUP II. *Acute dilatation of the heart due to toxic degeneration of the muscle wall or added to the myocardial degeneration of people in advanced years.* This condition is accompanied by an elevation of pressure usually ranging from 125 to 170 m.m. mercury. Cyanosis is a marked symptom from the beginning in these cases. The superficial vessels are contracted and the hands and feet are cold. The first sound of the heart loses its muscular quality. The pulse is rather small, of high tension, irregular both in frequency and size, the irregularity in size being very important as showing an incomplete systole, and this seldom occurs in acute diseases unless indicating a serious overtiring of the heart. These symptoms are present and more or less prominent until relieved by crisis, but they may be replaced at any time by a sudden attack of dyspnea, increase in the cyanosis, a pulse increasing in rate but retaining its previous characteristics. Physical examination will reveal definite signs of enlargement of the heart, with descent of the apex, etc. Adrenalin if used in these cases will intensify the dilatation by raising the pressure, as illustrated in the following case:

GROUP II. *Case 1.* F. B., admitted to the hospital delirious and not in a con-

dition to obtain history. Right lower lobe involved. Leucocyte count 19,000. At the time of admission, pulse 100 to 120, respiration 36. Blood pressure on the right 150, 140 on the left. Cyanosis marked. Pulse small, high tension; dyspnea extreme. Patient presented all the contrasting symptoms as compared with Group 3. Death due to cardiac dilatation accompanied by pulmonary edema.

GROUP III. *Vaso-motor paresis.* In this group we have a condition resulting from toxemia which affects excessively the control of the calibre of the arteries. The average well balanced pneumonia with a temperature ranging between 103 and 104, and with a blood pressure of 95 to 110, should be accompanied with a pulse ranging between 96 and 106. The pulse is soft and compressible, and on the third or fourth day may even be dicrotic. Cyanosis is not a prominent feature as in Group 2 and the extremities are warm. While the above symptoms are all favorable, the blood pressure should be carefully watched and a daily estimation made, as an impending loss of vascular control will be anticipated by a fall in the pressure and an increase in the rate of the pulse from 96 or 110 to 120 or 140. This tendency to increase may not be constant during all of the twenty-four hours, but will be a sufficiently prominent feature of the chart to be easily detected if followed closely, and will be confirmed by the compressible pulse and warm extremities. This low pressure and fast pulse may exist for several days without exciting any great anxiety and be entirely relieved by a favorable termination, but on the other hand, not infrequently about the fifth or sixth day there may be a sudden acceleration of the pulse, dyspnea, cyanosis, a drop in the blood pressure to 70 or 80 m.m., pulmonary edema and death before the racing heart can be controlled. These symptoms have been observed not only during the activity of the disease, but also at the time of the crisis and during the decline of the temperature by lysis accompanying delayed resolution. The heart is rapid but does not display the signs of dilatation.

The following have been selected as illustrating the clinical features of this group:

GROUP III. *Case 1.* J. K., admitted to the hospital on the fourth day of pneumonia, left lower lobe. At the time of admission the blood pressure was 110, respiration between 28-30; the pulse showing a decided tendency to be disturbed in rhythm, ranging on the fourth day between 114 and 124. On the fifth day the pulse ranged between 112-128; sixth day, 114-138; seventh day, 120-138; eighth day, 118-140; ninth day, 130-142; so that the rapidity of the pulse, out of all proportion to the temperature, blood pressure and respiration, was strongly marked.

This patient on the 19th (or sixth day of his disease) developed signs of lack of compensation and stimulation was administered as follows: digalen, minims 10; whiskey ½ oz.; strychnine 1/40; every four hours. This was continued, and on the 22nd or ninth day, he developed a slight pulmonary edema and his blood pressure, when estimated, was found to be 70 on the right and 88 on the left. A series of adrenalin chloride was administered, the patient receiving 15 minims every twenty minutes for six doses.

It will be noted that this disturbance in the loss of control in the circulation and edema occurred at the time of crisis. The pressure, as a result of the injection, increased to 90 on the right and 105 on the left. The pulse dropped from a maximum of 142 on the 22nd to a maximum of 112 on the following day. As the pulse still displayed low tension qualities on the 23rd, the day following the edema, two additional doses of adrenalin were given and then discontinued.

During all this time, that is, from the 20th through the 23rd, the digalen, whiskey and strychnine had been continued, but without any evidence of a control of the heart. With the restoration of

the vascular equilibrium, the tension began to rise, so that on the 25th a pressure of 150-160 was present, the pulse ranging between 94 and 102. It would seem that during the period of loss of vascular control, between the 19th and 23rd, it was impossible to obtain a vaso-motor constriction from the use of the digitalis.

GROUP III. *Case 2.* J. M., admitted to the hospital delirious on the 16th and not in a condition to obtain history. The day after admission the blood pressure was 105, pulse showing a tendency to increase with a decreasing temperature. This feature is especially noticeable on the 17th, 18th and 19th. In spite of stimulation, the patient developed a pulmonary edema on the 19th, having at the time a pressure of 100 m.m. mercury, and died on the 20th, although on the last day of his illness a slight slowing of the pulse was evident.

GROUP III. *Case 3.* A. C., admitted on the 7th day of lobar pneumonia. An unfavorable prognosis was made in this case as a result of the observation of the low pressure with a tendency of the pulse to become rapid out of proportion to the temperature, physical signs and the absence of dilatation of the heart. Range of pulse 104-150, blood pressure 95-105.

GROUP III. *Case 4.* R. G., admitted to the hospital on the 31st, with lobar pneumonia of right and left lower lobes. This patient throughout the course of the disease has been relatively comfortable, cyanosis scarcely noticeable, blood pressure ranging between 80 and 116 maximum; pulse ranging between 100 and 114, the symptoms being well balanced and the patient's condition being entirely satisfactory. The blood pressure should be carefully observed daily, having in mind the possibility of a vaso-motor collapse. Should the patient show evidence of an increasing pulse out of proportion to the change in pressure, small doses of adrenalin should be given to steady the pressure and thus prevent a complete collapse and subsequent edema.

The comparison of the clinical pictures of Case 2, Group II, and the cases classed in Group III was very striking. All patients were admitted to the ward with lobar pneumonia. In Case 2, Group II, (T. M.) at the time of admission the patient was cyanotic, dyspneic, pulse was small, high tension. Blood pressure on the right was 150, on the left 154. Heart was laboring and the patient presented all the symptoms necessary for an unqualified and poor prognosis. The blood pressure increased until it reached 180 m.m. on the fifth day of the disease. The case terminated on the sixth day unfavorably.

All of these cases except Case 2, Group II, were surprisingly free from cyanosis until the development of the terminal symptoms in the fatal cases.

This condition of vaso-motor dilatation or paresis is accompanied by a clinical picture which is sufficiently definite to make it possible to differentiate it from the cases classed in groups 1 and 2 and as the only type in which we should use adrenalin. For, if our deductions are correct, its use in Group I, would be useless and in Group II, detrimental and dangerous as illustrated by the following case:

J. K., admitted to third division with pneumonia, right lower lobe. Temperature 101½, respiration 32, blood pressure 120 m.m. pulse rate proportionate. On the seventh and eighth days he was given adrenalin experimentally, 15 minims every three hours. The pulse at the time ranged between 106 and 116, and the respiration 32-42. On the 9th day the temperature dropped rapidly from 103.4 to 100, the pulse increased to 128 and his dyspnea and cyanosis increased, his pressure at this time being 185 m.m. The adrenalin was discontinued at 8 a. m. and at 4.45 the blood pressure had dropped to 135 m.m., the pulse to 108, and from this point the patient continued to improve. The continuation of the adrenalin would, I believe, have induced dilatation of the heart.

The cases in Group III may best be compared to a steam engine running under a normal pressure of steam which is subjected to the sudden withdrawal of the load or resistance. The immediate result of

this will be a racing and destruction of the engine, unless the load or resistance can be quickly reintroduced. A similar condition exists in the heart under these circumstances and as the vessels fail to respond to the vaso-motor control, the heart will increase in rate and be accompanied by pulmonary edema, death intervening due to an exhausted heart. The problem of treatment is therefore to introduce some substance which will quickly cause a contraction of the peripheral vessels and act as a governor. It is necessary that this peripheral resistance should be sustained for some time to be of any great value. To determine whether adrenalin possessed this property, we conducted a series of experimental injections, selecting the intermuscular administration in preference to administration by mouth, because of the uncertainty of action when used in this latter way, and in preference to the intravenous method, because of its slow absorption from the muscle. For these experiments we selected patients between the ages of 20 to 50 whose arteries should still retain the possibilities of contraction and dilatation. All of these patients were given 15 minims every twenty minutes for four doses, the pressure being taken every hour thereafter until it returned to the low point. We found the pressure would be maintained above the point recorded before the injection for about four hours and the rise would be noticeable about fifteen minutes after the first injection, the maximum pressure being reached in about one and three quarters to two hours from the time of the first injection.

A second series was given to some of these patients resulting in a second rise sustained for about the same length of time, thereby demonstrating that the blood pressure would be maintained for a considerable period and a perfect response to a second series if it became necessary to maintain the pressure for a longer period of time.

In conclusion, therefore, I would advise the inter-muscular injection of adrenalin chloride only in cases of impending pulmonary edema if they present the clinical picture described in Group III.

That it should be used in 10 minim doses before any signs of edema appear provided the pulse shows a marked tendency to increase in rate and the blood pressure is below 110 and the other symptoms of vaso-motor dilatation are present. If edema develops suddenly during a pneumonia that it be used in 15 minim doses every twenty minutes for a series of four to six doses or until the symptoms are controlled, and that this series be repeated if there are any signs of a return of the edema; provided we have definitely differentiated this edema from the edema accompanying acute dilatation of the heart, by applying symptoms occurring in group 3.

175 W. 58th St.

Each and every one of us may lay this unflattering unction to his soul, that he has gotten in results exactly what he deserves, just what he earns says the *American Journal Clinical Medicine.* People pay us what we are worth. People love us so far as we are lovable. People respect us in so far as we are respectable; in a word, the world forms a fairly correct estimate of us, and values us accordingly. If we are dissatisfied, it is up to us to make ourselves worth more, and to make men know our actual capacities and possibilities.

Be not ashamed to be helped.—*Marcus Aurelius.*

THE THERAPEUTIC USES OF CHLORAL HYDRATE—A BRIEF DIGEST OF AUTHORITATIVE OPINION.

BY

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Chloral hydrate is a drug that has enjoyed varied and multiple uses in medicine. In many respects it is one of our most valuable therapeutic agents in conditions where its use is indicated.

Before we comment upon its uses and employment, let us observe what it is and its physiological effect upon the various portions of the body that respond in any manner to its action.

From the chemist we learn that it is obtained by the union of tri-chlor-aldehyde (C_2HCl_3O) with water, and that the aldehyde itself is the product of the action of chlorine on alcohol.

In its composition we can discern the foundation for the anesthesia with which its use is associated. When free from deterioration, which readily follows if left exposed to the air in uncorked bottles, it occurs in colorless, whitish crystals, having a peculiar bitter taste, a characteristic odor and neutral reaction.

The usual dose is from 5 to 20 grains.

We may here perhaps give a brief description of its physiological action. Its dominant action is on the central nervous system and in moderate doses it produces a natural sleep by depressing the cerebrum. Its main difference from morphine is that chloral does not antagonize pain nor depress the analgesic centres. Larger doses produce general depression and toxic doses resemble chloroform poisoning. It exerts no action on peripheral nerves.

On circulation large doses depress blood pressure by depressing the vaso-motor centre and cardiac muscle. On respiration, large doses paralyze the respiratory centre. On temperature, large doses depress heat centre in brain and also lower temperature by dilating cutaneous vessels and by limiting muscular movement. On metabolism, prolonged use of chloral destroys proteids and leads to fatty degeneration of the viscera. Locally, it is an irritant to mucous surfaces. On micro-organisms, prevents movement of protozoa and retards putrefaction. Eliminated by kidneys as urochloralic acid.

From the above we learn that chloral ordinarily has little action on any but the nervous centres, and only in large or toxic doses, as mentioned above, does it involve the other functions. It is primarily and essentially a nerve depressant, a sleep producer, pain is not a dominant symptom, in which case it is probably inferior to morphine.

As to its toxicology, we learn that overdoses of chloral, given with criminal intent, as in the far-famed knockout drops, or even when sometimes given where it is seemingly indicated, often produces a natural-like sleep that deepens into coma, attended by slow, then shallow breathing, contracted, then dilated pupils, muscular relaxation, collapse, respiratory paralysis and death.

Previous to the more stringent laws regulating the sale of drugs like chloral, the practicing physician encountered numerous instances of chronic chloral poisoning. We may recognize these unfortunate individuals by their pronounced nervousness, dyspnea, insomnia, impaired mentality and the various body disturbances that are characteristic of the condition.

The principal effect of chloral is to induce sleep. It is a powerful hypnotic but its use is not indicated in the ordinary ailments met with daily, which perhaps to the lay mind, would suggest the employment of a hypnotic such as this. These common derangements are usually readily relieved by the use of the coal tar derivatives or some of the bromide preparations, with much less danger.

Chloral is especially indicated in the insomnia resulting from overwork, in great mental excitement where a pronounced sedative and hypnotic action is imperative, in the wakefulness of delirium tremens, and in mania and similar states, where the extreme irritability or nervous excitement must be controlled. In the treatment of acute nephritis it will give the sufferer freedom from prolonged wakefulness but its long continued use must be avoided on account of the tendency to produce a habit.

Chloral is also a very useful antispasmodic in uremic and puerperal convulsions, and with the bromides, forms a combination that far exceeds anything in controlling the convulsions of tetanus or of strychnine poisoning.

In grave cases of epilepsy and whooping cough its use has given notable relief. With camphor, it has often been used externally to relieve neuralgia and to give temporary freedom from the pain of toothache.

Chloral is contraindicated in cardiac and respiratory weakness but in some cases it is imperative that sleep be produced under these conditions, and then, carefully and judiciously employed, chloral will no doubt serve as probably no other remedy in the pharmacopeia can in producing sleep and rest where it is absolutely essential. In reviewing the older literature on the subject of chloral, we find an interesting article in Biddle's Materia Medica, published in 1878. Here we learn that it was discovered by Leibig, in 1832 and was prepared by passing dried chlorine gas through pure, anhydrous alcohol which when heated, separated into two liquid layers, the lower one of which was chloral. This was then agitated with sulphuric acid and distilled by passing over sulphuric acid and then over quick lime, when it was obtained in the pure state. The anhydrous form was described as a limpid, thin, greasy-like fluid with a specific gravity of 1,502, and which boiled at 203° F.

When mixed with water it became a hydrate and was then of crystalline form, forming whitish needles, unstable, so that with exposure, water was absorbed and a semi-solid or fluid of inert properties was the result.

In this older work little that we now know about the drug was omitted and it was described as a reliable hypnotic in insomnia and kindred conditions, a valuable agent in mania and delirium and an antispasmodic in convulsions and where its effects were indicated.

In an older edition of Bartholow, published in 1877, additional uses were found for chloral, for relieving sea sickness, the sickness of pregnancy, and of valuable service in cholera morbus and in cholera.

In Bartholow's book on Hypodermic Medication, we learn considerable of interest in regard to chloral, that does not seem to be touched upon in other works on materia medica. He writes: "It is only the crystalline form that is suitable for hypodermic use and that a saturated solution in water, (50% of chloral) is about the only way that it can be injected into the tissues, and this is best accomplished by making

two puncture administrations of the required amount. It is at best a painful procedure but in the past it has rendered timely and valuable assistance when other methods failed to relieve. In this way it has overcome persistent vomiting, obstinate hiccoughs, cholera, cholera morbus, asthma, cerebral disorders and other derangements requiring its sudorific effects. It is administered subcutaneously as near the area of disorder as possible but at all times, care must be exercised to avoid its use in a weak or fatty heart."

Notwithstanding the above, it is a drug that is seldom used in hypodermic medication, for besides its painful application, often long after its use, it is productive of much inflammation and suppuration about the point of entry, so much so that I believe all writers now advise against its use hypodermically.

In the twelfth edition of Piffard, published in 1888, we find an interesting discourse on chloral. In his description of the drug, "it contracts the pupil but if exceedingly large doses are given, it contracts, then dilates the pupil. It lowers blood pressure by dilating the blood vessels and by weakening the heart directly by its depressing action. It reduces temperature by dilating cutaneous vessels and by decreased heat formation. Large doses cause muscular relaxation and death results from respiratory or cardiac paralysis. It produces sleep by its depressant action on brain and by the anemia of the brain that follows its use."

The descriptions of the drug given in the more modern works do not differ materially from these of the older writers, and Piffard's work gives the additional information that the drug has useful indications in overcoming the sleeplessness of the aged and the infirm when other drugs do not relieve. It is also used with good results, according to this author, in puerperal mania and convulsions and among the insane. It has been useful in convulsions of children, in the sleeplessness of low fevers, during the periods of deranged menopause, in difficult parturition as an aid to delivery, to combat the spasms of chorea and in the anesthesia of children as well as for those nocturnal incontinences of urine in children that often prove so annoying and so rebellious to ordinary efforts to relieve.

Piffard ascribed to chloral, valuable antiseptic properties as a topical application, as a saturated solution in glycerine, during diphtheria.

There is much of interest to be learned of chloral in the materia medica of John V. Shoemaker, published in 1891. In addition to the general description of the drug and its uses, we read that it is exceptionally antiseptic and exercises a profound depressing action on the rate and movement of the heart and that its action is spent on lowering the activities of the motor nerves alone.

Animals poisoned by chloral recover if kept warm. A rash may follow in the wake of its employment from the dilation of the blood vessels and with this condition there is a local desquamation often witnessed during its administration.

A little valuable advice ends the discourse by this author concerning its administration, "its unpleasant taste may be disguised by mixing it with a quantity of lemonade."

In another work of Shoemaker's, his treatise on Materia Medica and Therapeutics, published in 1894, we find chloral recommended as a serviceable, surgical antiseptic in a 5% solution for parasitic skin

diseases and to check the itching in eczema and pruritus.

It has long been employed according to the same author, as an antidote to poisoning by strychnine and physostigma. He also strongly recommends its employment, a dose on retiring, to ward off attacks of nocturnal epilepsy.

In a book, "A Guide to Therapeutics and Materia Medica," by Frank Woodbury, published in 1889, we learn that chloral can be very profitably employed when it is indicated, even when swallowing is an impossibility, by giving it in enema, with milk and yolk of egg. This writer says that while ordinarily, the action of chloral is without analgesic effects, yet in difficult parturitions, it often relieves the pain in the early stages of labor, before full dilation of the os.

In a work, Therapeutics, Materia Medica and Pharmacy, by Samuel O. Potter, (1909), a long list of incompatibles is given in considering the use of chloral with the very useful advice that it is best given alone instead of combining it with other drugs and this fact cannot be denied because its hypnotic influence is best manifested when it is used without any combination.

As an anesthetic, chloral is not in universal use and is differently considered by different authors.

In A Practical Guide to the Administration of Anesthetics, by R. J. Prolyn Williams, (1909), no reference is made in the work, to chloral, nor in Artificial Anesthesia, by Turnbull, is there any reference to chloral. In Artificial Anesthesia and Anesthetics, by Lyman, (1881), we find the interesting information not observed before, as to the origin of the name, in the process of manufacture, the chlor- from chlorine, and the al- from the alcohol, a combination of which forms the name of the drug we are considering here.

In the presence of alkaline hydrates, chloral is decomposed into chloroform, and this was once thought to be the fate of chloral in the body. On animals, much experimental work was done in its early history and about all that we have learned of the drug has been from that source. We later found that its effect upon individuals was about the same as it had been upon the lower orders of creation, and right here it may not be amiss, to merely comment upon the unwise agitation that is periodically rampant on the subject of animal experimentation, even when properly performed. As with many of our other drugs, much that we know of chloral has been learned from its effects upon animals and I do not think that any one will deny the right of using useless subjects to advance our knowledge of conditions, that human sufferings may be saved and disease overcome.

Chloral is a poison, a hypnotic, or an anesthetic, according to the amount used, but its main virtue is as an hypnotic. For this condition we give it in 5 to 15 grain doses, repeated every hour or two until the desired result is obtained and in this way it can be safely continued for a number of weeks.

One author prefers the intravenous method of administration to the subcutaneous, but mention is made of dangerous possibilities in its use this way, such as blood clots forming and other heart complications unless given at a remote distance from the cardiac organ.

The action of chloral on the blood is an interesting one, according to another writer, for after its use the corpuscles shrivel and it seems to offer effective hindrance

to coagulation. It contracts the pupil in a way similar to the action of alcohol, by paralyzing the sympathetic mechanism. On the nervous system it is: 1, excito-motor toward the cord; 2, sensory depressant; 3, depresses the reflex impulses. An interesting fact in connection with the action of chloral is that its depressing action upon the spinal nerves is ascending in its progress.

The mode of action of chloral has been the subject of much discussion and for a long time it was believed that when chloral entered the body it was decomposed into chloroform with the accompanying formation of an alkaline salt, according to the formula below, but this view has long been abandoned.

Choral	Sodium hydrate	Sodium formiate	Chloroform
C_2HCl_3O—	× NA OH—	= Na CHO_2 ×	C HCl_3

In many of the older textbooks on materia medica we observe the therapeutics of the drug explained by the application of the above formula, ascribing its hypnotic effects to the liberation of the chloroform from the chloral molecule, in the body.

The author is very emphatic in his praise of chloral as a reliable hypnotic, "producing sleep from any cause of wakefulness and of undoubted virtue in insanity, delirium tremens, all forms of spasms and convulsions, puerperal eclampsia, chorea, hiccoughs, tetanus, whooping cough, bronchitis." He also found it a valuable aid to parturition and capable of serving a very useful purpose whenever the action of a pure hypnotic was desired.

In Clinical Therapeutics, by Alfred C. Croftan, (1907), we find that chloral is contraindicated in passive hyperemia of the brain, when due to broken compensation, because of the depression of cardiac muscle from the action of the chloral as well as its depressing action on the blood vessels and the paresis which it occasions upon the vaso-motor centres.

In Pharmacy and Therapeutics, by Cushney, (1910), chloral is described as the best known and most widely used narcotic. He writes that 15-30 grains cause a natural sleep from which the patient can be awakened by touch, sounds or pain and lasts for about 5-8 hours, without any unpleasant after effects.

Larger doses (75 grs.) produce a deeper sleep from which the patient cannot be awakened, and oftentimes lasting 15 hours with frequent nausea, vomiting and headache afterward.

Doses larger than the above cause a state resembling that of the third stage of anesthesia, when all the reflexes are gone and no response to pain or flagellation. In this state the muscles are completely relaxed and asphyxia results from respiratory paralysis, after which the heart continues to beat for a time.

Chloral depresses the entire central nervous system and sleep is induced by dulling the perceptions. The motor neurons of the brain are depressed as are the reflexes of the spinal cord after which follows paralysis of respiration. The depression of the reflexes differentiates the action of chloral from the alkaloidal narcotics like morphine which do not exert a depressing action on the reflexes. In chloral administration, the medulla is the last portion of the central nervous system to be depressed.

Large quantities of chloral slow the heart and depress blood pressure by paralysis of the vaso-motor system, as well as by paralysis of the heart muscle; but only very large doses affect the heart or arterial tension.

Recent investigations tend to disprove the former belief that chloral is decom-

posed into chloroform in the body, as the latter substance is not found in the blood nor exhaled after chloral is administered. The effect of chloral upon tissue changes is similar however to the action of chloroform and its prolonged use leads to fatty degeneration of the various organs of the human system.

Cushney also adds that chloral was formerly thought to lead to the development of glycosuria on continued use but this has been found erroneous, as the reducing substance in the urine is now known to be urochloralic acid instead of sugar.

Chloral is reduced in the tissues into trichlor-ethyl-alcohol, (CCL_3CH_2OH), which combines with glucoronic acid to form urochloralic acid which is excreted as such in the urine although some escapes unchanged by the kidneys. Some of the chloral is often thrown into the stomach and it is this that often nauseates the patient upon his awakening from its hypnotic influence.

In An Index of Treatment by Various Authors, published 1908, there is the following about the treatment of poisoning by chloral; prevent sleep by applying wet towels to face, give emetics, purges, hot cloths to combat the action of the drug to lower temperature, strong coffee, artificial respiration, strychnine hypodermically and oxygen to overcome the pronounced depression that accompanies its toxic action.

Poisoning by chloral presents the following:

1. Marked coma.
2. Shallow breathing.
3. Loss of pulse at wrist.
4. Pupils dilated.
5. Muscles relaxed.
6. Death from asphyxia.

People have taken large doses of chloral without any visible ill effects. Hare reports a patient taking 330 grains of chloral combined with 330 grains of potassium bromide, with no bad effects.

Daley in the same article, on large doses of chloral, reports having been called to attend a patient who had taken 595 grains of chloral and survived.

In chronic poisoning by chloral we observe the following:

1. Mental weakness.
2. Physical distress.
3. Sudden flushings, vaso-motor disturbances.
4. Petechial eruptions.
5. Bed sores, ulcerations, sloughs.

Chloral is indicated wherever sleep is desired, if there be freedom from pain. When we meet pain with wakefulness a combination of chloral and morphine is even better than either drug alone. A useful prescription is as follows:

Chloral hydrate—ʒii.
Morphine sulphate—gr. ii.
Syrup lactucarii—ʒii.
Aqua—q. s. ad—ʒiii.

Sig.—A dessertspoonful in water, repeat in one hour if necessary.

In the Practical Medical Series, Showing the Year's Progress in Materia Medica, (1910), by Messrs. Head & Mix, we learn that chloral must be given in solution, well diluted to avoid the very irritating effect it may otherwise occasion. They describe it as a sedative to the brain and spinal cord, producing a natural sleep. When convulsions are due to spinal cord poisons such as strychnine, tetanus or hydrophobia, it requires a larger administration of chloral than is otherwise necessary and these conditions are best met by giving potassium bromide in combination

with the chloral, and using chloroform if the convulsions are frequent or severe.

These authors add that chloral has a disagreeable taste and is best given in sour solutions or in lemonade.

In The Index Catalogue of the Library of the Surgeon General, U. S. A., Vol. 3, (1898), there is an interesting account of a case of chloral poisoning successfully treated by the administration of belladonna.

There is also mentioned in the same work an instance of recovery after taking one ounce of the drug.

In the *London Lancet,* (1895), Colenso reports a recovery after taking over an ounce of chloral hydrate.

In *The Chicago Weekly Medical Review,* Dr. J. A. Fordyce in 1884 reported a death from the use of chloral given during an attack of delirium tremens and Dr. M. J. Madigan in the same weekly reported the recovery of a patient who had taken over an ounce of chloral.

Blumenthal in the *Journal of the American Medical Association,* Chicago, 1908, recommends that strychnine and digitalis should be given when the administration of chloral hydrate shows evidences of cardiac depression.

In the *Index Medicus,* 1905, there is a report by Dr. J. F. Daly, of hydrate of chloral poisoning in the *India Medical Magazine* of Calcutta, where a sufferer from epilepsy took 495 grains of chloral in an attempt at self destruction. He drank the drug in lemon juice and at the hospital presented complete unconsciousness, dilated pupils, labored breathing, chloroform odor to the breath and yet under the treatment of strychnine and ether hypodermically and cold applications, was returned to a normal state.

In *The Index Medicus* for 1903, there is the following reference to chloral: Dr. Acker in the *New York State Medical Journal* reported a young woman, who, despondent over financial losses, took over two drams of a mixture containing equal parts of chloral and potassium bromide combined with nearly 3 grains of hyoscyamin and yet recovered under treatment. To offset this extreme we read of instances where ten grains have been a fatal dose.

In the Eighth Decennial Revision of the *U. S. Pharmacopeia.* chloral is described as tri-chlor-aldehyde. It is also stated that it should be kept in glass stoppered bottles in a cool and dark place, that it is neutral in reaction to litmus, and that 15 grains is the average dose.

Chloral hydrate is not only one of the drugs in constant use by veterinarians but is one of the few specifics that the practitioners of comparative medicine have at their command. There is no agent that gives as prompt relief in both spasmodic and flatulent colic in horses and in its several uses among animals it is both antispasmodic and markedly anodyne.

In Veterinary Materia Medica and Therapeutics, by Winslow, fifth edition, (1907), we learn that moderate doses cause sleep in animals and that larger doses act as the drug does upon man but that it allays pain more than it does in human practice. In its use upon animals, the antidote to poisoning is 5 times the usual dose of strychnine and atropin with strong coffee into the rectum. In veterinary practice it can be given intravenously, subcutaneously, intratrachially, by mouth, by rectum. Winslow says that it can be given into the jugular vein, one ounce in two ounces of sterile water, repeat in an hour if neces-

sary. If given by the mouth, dilute ten times to avoid its irritating effects upon mucous membranes.

Externally it is a stimulant, antiseptic, local anesthetic, (1-4 dilution is used on sores and ulcers).

Internally it relieves spasms in colic, tetanus, strychnine poisoning, in convulsions in dogs, and especially in those nervous disorders so frequently observed during convalescence from distemper. It is also used to assuage pain and to produce sleep although this is not such an important factor in the treatment of animal ills and disorders.

In a Manual of Veterinary Therapeutics and Pharmacology, by Hoar, second edition, (1906), the incompatibles of chloral are alkalies and quinine. It is also described as a specific for colic in horses and superior to opium for the relief of abdominal pain because it does not affect the normal peristalsis and cause impaction, so frequently seen when opium is administered to horses.

Both authors agree that it is a specific in the treatment of horses in colic and for the relief of that condition has rendered an aid of high commercial value where the worth of the drug is reckoned in the money value of the animal it can return in health to its owner.

We will conclude the consideration of chloral by a brief resume of what has been gathered in regard to its employment in medicine and I believe it is well agreed that it is one of the most valued and reliable drugs at the command of the physician.

Discovered by Liebig in 1832.

Prepared by the action of dry chlorine gas on alcohol. Dose is 5 to 20 grains, but that 10 grains have been fatal and patients have taken more than an ounce without serious harm.

Physiologically its action is upon the central nervous system. In therapeutic administration it is a pure hypnotic, producing a natural-like sleep with no bad after effects.

Large doses seem to depress both motor and sensory areas and produce a coma-like unconsciousness and death by respiratory paralysis.

Strychnine and atropin are antidotes to poisoning by chloral. Its incompatibles are the alkalies and quinine. It is reduced in the body to tri-chlor-ethyl-alcohol, and combines with glucoronic acid to form urochloralic acid in which form it is excreted.

It is used by veterinarians as a specific for colic in horses. In human practice it is an irritant, antiseptic and stimulant externally but its main use is to produce sleep in any condition of wakefulness without pain and the several text-books all seem to agree that it is the best of our hydrocarbon hypnotics.

CORRESPONDENCE.

THE MODERN TREATMENT OF TUBERCULOSIS.

To the Editor of AMERICAN MEDICINE:—

In Dr. O. L. Mulot's article in your issue for September, 1911, the creasote treatment is wisely deprecated when used in large doses. On the other hand, it is stated that the undeniable good that results from its use is "entirely due to its gastro-intestinal antiseptic action" and to realize this action no heroic doses are necessary.

I take exception to the radical statement "entirely due" because creasote eliminates itself in part through the respiratory passages and its local beneficial action is there also indubitably shown. This I have proven and reported again and again, in twenty-five years of a large and varied experience. Such conviction is not born to die.

I hold still and more than ever "there is only one medicinal treatment that is really valuable in pulmonary tuberculosis, and that is beechwood creasote, internally and by inhalation . . . . . without this treatment many patients will die; with it, taken in time, many will recover who otherwise would not. . . . . There is no treat-

ment of any value, local or general, I have not faithfully tried, I believe.[1]" I still cherish my belief with undiminished faith.

BEVERLEY ROBINSON, M. D.

New York, October, 1911.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Duodenal Ulcer.—Reed says that there are few diseases in which the symptoms appear in such regular order as in duodenal ulcer. The patient usually begins his history by saying that for several years he has had more or less stomach trouble. The period may be as short as six months or it may cover practically a lifetime.

There are at first fairly long periods of complete, or relatively complete, absence of symptoms. As time goes on these periods become shorter until finally the patient reaches that stage where these intervals represent only a period of tolerance. Early in the history the patient recalls that the attacks occurred more frequently in the fall of the year, and that during the spring and summer months little or no symptoms were present. Later, however, the attacks would come on with little provocation, such as slight indiscretion in diet or exposure to sudden temperature changes.

Just as typical as the history outlined is the description of the individual attack. There is a burning, boring sensation in the epigastric region. Usually nausea, rarely vomiting. Belching of sour, scalding material. Appetite at first variable, later ravenous. Taking food relieves pain from two to four hours. The more chronic cases, observing this fact, may have formed the habit of carrying food in their pockets to be eaten when the pain comes on. Bowels are invariably irregular, constipation, or constipation alternating with diarrhea. The majority of cases will report having had melanotic stools. Such in brief is the history obtained in uncomplicated duodenal ulcer.

There is little to be ascertained from the physical examination. There is usually tenderness on deep pressure, and consequently some muscular rigidity in the right epigastric region. The well-trained clinician may be able to palpate a large indurated ulcer of the duodenum. The stomach is usually slightly dilated. Test meal shows atony. Hcl. is nearly always diminished and organic acids are present. Total acidity not above normal, usually below.

Since gastric and duodenal ulcers frequently coexist, it naturally follows that a confusion of symptoms will render diagnosis difficult. From a surgical standpoint it only needs to be shown that there is a duodenal ulcer.

[1]Beverley Robinson, *American Journal of Clinical Medicine*, July, 1909.

The Different Varieties of Coma.[1]—It is not always easy to determine the cause of a comatose condition, yet the diagnosis is necessary, both for prognosis and the treatment. Naturally the first thing to do, says Dr. Oddo, is to get acquainted with the antecedents of the patient. What was his condition before the accident? Was he usually in good health, or did he complain of vertigo, nervous troubles, etc.? Had he already had disquieting symptoms? What was the condition of the urine (sugar or albumin)? Did the patient suffer from malaria, epilepsy, gout? Did he complain frequently of headache (uremia), or violent headache, with troubles of the vision (cerebral tumor)?

Attitude and Aspect of the Patient.—Redness of the face with a vulturous expression would indicate cerebral hemorrhage, meningitis; a pallid and puffy face suggests uremia. If the skin is of rose or carmine color, poisoning by gas (oxyde of carbon) may be thought of. If facial asymmetry exists with a drawing down of one corner of the mouth, the case is probably one of apoplexy. Sanguineous froth around the mouth is a sign of an epileptic seizure. Rapid and feeble trembling of the eyelids, with quiet circulation and respiration, constitutes good presumption in favor of hysteria.

Spasms and Convulsions.—Convulsions are observed in epilepsy, uremia, tuberculous meningitis, ventricular hemorrhage, tumors and abscess of the brain. Contractions in cerebral apoplexy, cerebral hemorrhage; they may be uni- or bi-lateral. In meningitis the spasms affect especially the back of the neck; when the spasms are intermittent, poisoning by strychnine or tetanus may be thought of. There are no spasms in the coma of diabetes, alcoholism or hysteric apoplexy.

Paralytic Phenomena.—Hemiplegia is the characteristic of apoplexy from cerebral hemorrhage or softening of the brain, but rarely is it observed in uremia. Hysterical hemiplegia is diagnosed by the absence of the Babinsky sign (extension of the toes by exciting the sole of the foot), which is only observed in organic lesions.

Respiration and Circulation.—The odor of the breath in coma can afford information of primary importance. It is alcoholic in the drunkard, ammoniacal in uremia, resembling chloroform in diabetes, and garlic in poisoning by phosphorus. The respiratory rhythm is stertorous in apoplexy of cerebral origin and coma of epilepsy; the Cheyne-Stokes type is observed in uremia; the respiration is irregular in meningitis, but calm and tranquil in hysteria.

The state of the heart and the pulse may reveal certain affections: it is thus that a *bruit de galop* of the left heart associated with arterial hypertension would indicate interstitial nephritis, while a valvular lesion would suggest an embolus.

The pulse is tranquil in hysteria, vibrating and full in apoplexy, slow and intermittent in

[1]*Med. Press and Circular*, Nov. 1, 1911.

meningitis, precipitated in cerebral rheumatism. In uremia, eclampsia and acute saturnism, hypertension of the pulse is a rule.

Other Signs.—Myosis is observed in uremia; inequality of the pupils in general paralysis and meningitis; insensibility to light in ataxia and cerebral syphilis.

Where it is possible to see the tongue, and when it shows signs of being bitten, epilepsy suggests itself. The tongue is dry in uremia.

As regards the urine, if there is involuntary emission epilepsy may be thought of; if, on the other hand, anuria is observed, the coma is decidedly due to uremia, while acetonuria is a capital indication of diabetes.

Vomiting and constipation are frequently observed in meningitis and cerebral tumors; diarrhea is frequent in toxi-infectious maladies, poisoning and uremia.

Hyperthyroidism.[1]—Graves gives the following points in diagnosis:

1. While it is generally believed that family history is of little importance in this disease, the careful development of it, if it does no more, will assist the examiner in getting an insight into the mental state of his patient. The family history, as ordinarily elicited, gives us, as a rule, but little definite information in most conditions. But, if in our investigations of disease we will supplement the history by personally making comparative studies of individuals of families, by comparing one child with another, and each in turn with his parents, valuable information will be thus secured in not a few conditions, and especially in syphilis, tuberculosis and hyperthyroidism.

The author has made some observations in this direction in families where one or more of their members presented symptoms of hyperthyroidism and has been frequently impressed by the general deviating characteristics of the progeny when compared with the parents.

Furthermore, the author's observations have shown that in many instances the brothers and sisters of individuals suffering from hyperthyroidism show simple enlargement of the thyroid gland in varying degrees. This fact has been occasionally noted by others, particularly in localities where goiter is epidemic, but the author's observations indicate that comparative studies of individuals of families will show the great frequency of enlargement of the thyroid gland in the same generation of those suffering from hyperthyroidism. A recent study of a family of five children, where the fourth child, a lad of 16, presented symptoms and signs of hyperthyroidism which had long been overlooked, showed that the others had distinctly visible and palpable thyroids in varying degrees of enlargement, and that not one of the children compared favorably with either parent in physical development. Such studies are important because they may enable us to recognize predisposition to hyperthyroidism in some families, and thus assist in early diagnosis and in prevention.

2. Remembering the great frequency with which we find exhausting diseases, grief, anxiety, worry, overwork, prolonged periods of stress and strain in the histories of patients suffering from hyperthyroidism, careful inquiry should be made regarding these. If we are patient in developing the personal history in its medical, social, habit, occupational and environmental aspects, no fact in personal history bearing on the case before us is likely to be overlooked.

3. The patient's account of his present trouble should be given most careful consideration. One should elicit the order of the development of his symptoms and inquiry should be made concerning their constancy. We should remember that patients are not always explicit about their complaints, and as a rule only the most prominent symptom is mentioned. A study of the literature of the symptomatology of hyperthyroidism finds unanimity as to this, that in the earliest manifestations of the disease the patient rarely complains of more than one thing.

[1]W. E. Graves, M. D., *Jour. Missouri State Med. Assn.*, Sept., 1911.

The Diagnosis of Scarlet Fever.[1]— Rumpel describes a new sign of scarlet fever. As long ago as 1907 Hecht had remarked that certain forms of cutaneous hemorrhage were characteristic of the disease. He took a fold of skin either of the back or chest and pressed it hard for a few seconds between his thumb and index finger, after which petechial hemorrhages appeared, easily in cases of scarlet fever, but with difficulty in other cases. The present observer makes use of this fact in producing the new sign, but instead of employing his thumb and index finger uses a rubber tourniquet. Characteristic cutaneous hemorrhages appear below the ligature in cases of scarlet fever, and they may be small or extensive and petechial or very diffuse. The hemorrhages which practically never appear in other diseases as the result of such pressure can be explained by supposing that the toxins of scarlet fever render the capillaries particularly vulnerable. In measles this weakness is much less common, and though it may occur the hemorrhages are much less pronounced.

TREATMENT.

Urethral Stricture.[2]—Zinke emphasizes the following points in the treatment: Alkalies and rest are always serviceable, especially if complications are present. Uncomplicated, nonresilient and not too highly irritable strictures are best treated by dilation, up to 20 F., with flexible instruments; above 20 F. with metal

[1]C. Rumpel, M. D., *Muenchener Med. Woch.*

[2]S. G. Zinke, M. D., *Jour. Kansas Med. Society*, Jan., 1911.

sounds. Urotropin before, asepsis during, and either silver nitrate or permanganate after sounding are indicated. Dilation is rarely necessary beyond the calibre of the normal meatus. If stricture persists, try thiosinamine. If the patient does not want to waste time or if there are complications, cut (in very tight strictures). Do internal urethrotomy for strictures in the pendulous portion, external or combined for perineal strictures. Anterior strictures are commonly curable, posterior ones commonly incurable. Impassable strictures, without retention, are usually amenable to treatment, but if finally we find them impervious we must perform urethrotomy. Retention not relieved by the catheter requires hot baths or hot sitz baths—the hotter the better. Baths failing we must do aspiration or urethrotomy, preferably the former. Traumatic strictures are preventable by prompt treatment at the time of receipt of the injury; later we do urethrotomy. We excise for resilient or nodular strictures. Irritable strictures seldom require incision. Acute inflammation complications usually call for operative interference. Never cut unless dilation fails. *Use no force* in the manipulation of metal instruments, and little or none with flexible ones.

The Treatment of Pleurisy.[1]—The treatment of acute pleurisy requires but little observation; however, it is sometimes useful to take a hurried glance at the methodic treatment by such an authority as Prof. Robin, of Paris.

The patient being put on exclusive milk diet, a laxative and diuretic dose of calomel is given:

Calomel, 8 gr.,

divided into four packets, one every hour.

The following day ten grains of salicylate of soda are given every six hours. Jaborandi has been employed in infusion (1 dr.) taken during the day to excite salivation and sudation, but it is a dangerous remedy, and should never be employed, at least in pleurisy of the left side.

The blister has been impugned by many as being dangerous, oppressing the nervous system, provoking congestion of the kidneys, irritating the bladder, provoking fever and exposing to infection, sometimes mortal. To these objections Prof. Robin replies that the blister increases phagocytosis, and increases pulmonary ventilation in the proportion of 50 per cent. The patient consumes 25 per cent. more of oxygen. It has not only a revulsive effect, but a dynamic action on the respiratory changes.

Therefore, towards the sixth or seventh day, when the temperature begins to go down and the effusion remains stationary, a large blister should be applied. The blister diminishes the dyspnea, and far from raising the temperature, it lowers it after a slight transitory elevation.

The blister should be powdered with camphor, and the skin well washed with soap, and afterwards with alcohol and ether at the point of application. It should never be placed right on the back on account of irritation and the difficulties of dressing; it is applied to the side and left ten hours *in situ*.

If, after that time, the skin is only reddened, a poultice of starch is applied to produce the desired "blister"; boric acid ointment completes the after dressing.

Blisters should not be prescribed in persons suffering from Bright's disease or hypertrophy of the prostate.

Besides the above fundamental treatment, certain symptoms require attention. The pain in the side may need an injection of morphine; great dyspnea, an injection of one-tenth of a grain of chlorohydrate of heroin. In case of a persistent hyperthermia, M. Robin recommends the association of pyramidon (6 gr.) and hydrochlorate of quinine (8 to 12 gr.), the quinine to be given ten minutes after the pyramidon.

[1]*Med. Press and Circular*, Oct. 18, 1911.

The Operation for Cataract.[1]—The operation for cataract, according to Brown, requires more nerve, skill, judgment, delicate manipulation, painstaking care, before and after the operation, than any other done on the human body. A cut of ¼ inch too little or too much here spells disaster or failure. The chief aim of the operator is Good Vision—cosmetic results be what they may. There are a few conditions that contra-indicate operation—Dachryocystitis, owing to danger of infection, cough, tends to re-open the wound after section. Ozena is another contra-indication.

Operation: Clip off eyebrows and eyelashes, sterile towels to head and chest, and good light.

Wash with soap and water.

Wash with sulphuric ether.

Wash with bichloride 1 in 4000.

Evert lids and wash thoroughly with hot bichloride 1-4000.

Put in 1 drop of 1 per cent. eserine half hour before operation.

Repeat 15 minutes later.

Three drops 4 per cent. cocaine at 2 minute intervals before operation—begin 10 minutes before section.

Boil instruments, put them into alcohol—then into 1 per cent. carbolic solution. Use lint wrung out of 1-4000 bichloride.

Withdraw knife slowly. Nothing should be rushed—take plenty of time. A good sharp knife and good speculum are very necessary. Half the battle is in making a good section—if this is properly done everything else is easy. Be at ease, in a sitting position, patient's head not more than 12 inches below the operator's eyes, with perfect control over your hand. This cannot be done in bed or on a high table—a table 26 inches in height best meets these requirements for most operators.

[1]W. M. Brown, M. D., L. R. C. P. Lond., *The Canada Lancet*, Nov., 1911.

Enter the knife slightly above the mid-horizontal line of the cornea, and make the counter puncture *corresponding* point on the inner side, i. e., section about half the circumference of the cornea. Make the section with the finger and not with a hand movement—*cut* very slowly. Sawing movements cause pain and imperfect coaptation of the lips of the wound. Following the operation, if the patient is not complaining, rest assured he is doing all right. A watchful attendant should, in every case, be on hand day and night for the first ten days to prevent the patient from getting out of bed, especially out in the sunlight.

Cocaine should not be used too freely; if the canaliculus is very patent the cocaine may get down the duct, affect the throat, cause retching and re-opening of the wound with possible suppuration and failure. Never treat a cataract at long range. Aftr removal do not leave the care of the eye to an inexperienced man, as it often ends in disaster.

The Treatment of Acute Anterior Gonorrhea.[1]—Bethune says he has given all methods of treating acute gonorrhea a thorough trial and has always returned to the Janet method of irrigating with potassium permanganate, finding that it relieves the pain and diminishes the discharge more quickly, and is followed by a smaller proportion of complications than any other method. After urinating, the patient washes all pus and smegma from the penis, drops his trousers to the knees, pulls his shirt up to the umbilicus and reclines upon the table in Valentine's position. Either an ordinary or the Wohlbarst G-U basin should be placed between the thighs to catch the return flow.

There are many tips for irrigating, each operator having a preference—I naturally for my own, illustrated later. In my tip the automatic spring cut-off enables one to regulate the force of the stream by a light pressure with the little finger, releasing the pressure shuts off the flow. A tight connection is assured by tying a string around the rubber tube over the groove in the handle of the tip. The tip is made by the Sands-Levy Co.

The reservoir of the irrigator is raised 18-24 inches above the top of the table and filled with a warm (105-110 F), 1-5,000 solution of potassium permanganate. The prepuce is retracted and the penis is grasped at the coronary sulcus with the thumb and index finger, the remaining fingers encircling the organ. The tip is lightly held by the spring handle, pressure of the little finger upon the finger-rest regulating the flow. Press upon the spring until the purple solution appears, then shut off the flow, hold the tip one-quarter inch from the meatus, press upon the spring and allow the fluid to flow gently into the meatus.

When the can is empty, drop the tip into the sterilizer, remove the basin, empty it, and dip the notched end into boiling water or pass it through the flame. Neglecting to sterilize the tip will result in infecting patients with more virulent strains of gonococci not to mention syphilis.

Hand the patient a gauze sponge, instructing him to dry the genitals. A three-inch square of gauze in the center of which is a slit three-quarters of an inch long is then pulled over the glans and the foreskin pulled down over it. This is to be changed at each urination. Circumcised patients should wear a gonorrheal bag, changing the cotton at each urination.

The patient is then told of the danger of infecting the eyes, is instructed to wash his hands after handling the genitals and to abstain from all alcoholic liquors. Sexual dalliance, coitus or the reading of erotic literature, is absolutely prohibited. Smoking in moderation is not considered harmful. No internal treatment is given as a routine measure beyond drinking as much milk and water as possible to dilute the urine, thus lowering its specific gravity and acidity. The frequent urination also serves to flush the irritating pus out of the urethra.

The various balsams, aromatic oils, and the like, at one time so popular in the treatment of gonorrhea, are gradually being abandoned, as they have practically no effect upon the urethra, only serving to upset the stomach, thus reducing the patient's natural resistance to the infection.

Constipation is best relieved by cascara. All aloin preparations are to be avoided, as they increase pelvic congestion, markedly aggravating the patient's discomfort. Enemas administered by the patient are taboo, because of the danger of infecting the rectum. A well fitting suspensory relieves the dull, throbbing ache in the testicles and is a valuable prophylactic against epididymitis.

After the first irrigation the patient perceives that the dysuria is markedly diminished, but recommences within twenty-four hours. If the irrigation did no more than to relieve the excruciating pain accompanying micturition, its use would be indicated in every case. But when proper technic is observed, its employment is also followed by a marked diminution of the discharge and a smaller proportion of complications than with any other treatment.

The irrigation treatment does not markedly alleviate the distressing painful, nocturnal erections or chordee. If the patient arises and urinates, the erection will subside; applications of cold water also give quick relief. Anaphrodisiac drugs are at the most very uncertain in action.

The irrigation must be repeated every twenty-four hours. On the second day the tip may be placed against the meatus and the can elevated three inches higher than on the preceding day. The elevation of the can may be increased two or three inches daily during the acute stage, provided the increased force of the stream does not cause pain. In no case should the elevation exceed four feet.

[1]C. W. Bethune, M. D., *Buffalo Med. Jour.*, Oct., 1911.

Pain during or following the irrigation is a warning always to be heeded that the stream is too forcible. The most frequent cause of disaster during the acute stage is the ballooning out of the urethra by pressing the tip too firmly into the meatus, not to mention filling the bladder by forcing the cut off muscle. Failure to observe these two points has brought the method into disrepute with many surgeons.

If the patient has gone untreated for the first week or two, the infection will invariably have invaded the posterior urethra. Improper treatment, introduction of urethral instruments, irrigation with a catheter, rough and forcible Janet irrigations and neglecting to urinate immediately before local treatment, are also important factors in the etiology of posterior invasion. When properly conducted irrigations are instituted during the first week, a large proportion escape it.

The Treatment of Furuncles.[1]—The treatment of furuncles, says Skillern, is divided into that of the furuncle itself and that of the low opsonic index of the blood. The treatment of the furuncle itself is divided into three stages: That of formation, ulceration and resolution. The treatment of each stage varies. When seen early in the stage of formation, the furuncle may be aborted in the following manner: A fine-pointed wooden stick is dipped in pure liquified carbolic acid, the excess shaken off, and the point is firmly and deeply thrust into the vesicle in the center of the furuncle and withdrawn. This results in a pit, surrounded by a white aseptic eschar. The pain quickly disappears on account of the anesthetic action of the phenol.

In cases of the first stage, where the furuncle is situated rather deep, a few drops of phenol injected into the base of the boil is effective. The pain following the injection is rather severe momentarily.

When seen late in the stage of formation, the indications are to establish an outlet for the products of liquefaction necrosis. This is done with a scalpel, by scratching off the little central vesicle, a Bier cup is applied, and as much as possible of the blood and serum are exhausted. Frequently the vesicle does not even have to be scratched, on account of the thinness of the cuticle, and, therefore, the cup alone is sufficient to rupture the cuticle. Incision with a knife should not be practiced. After the removal of the Bier cup, sterile gauze, moistened in a normal salt solution, containing one teaspoon of sodium citrate to one-half pint of hot salt solution, is used as a dressing for about three days. A bit of rubber dam may be inserted if there is much tension on the outlet. During the use of above solution it is well to protect the surrounding skin from pustulation by an ointment. The dressing is covered with oiled silk or waxed paper and cotton or wool, and bandaged. The cupping and dressing may be renewed every four hours until the slough is loose, and when such occurs it should be removed with a pair of forceps. It is immaterial what kind of dressings are used now. In addition, 15 grains of sodium citrate are given daily. If granulations interfere with the healing, strap the edges of the wound with adhesive strips, while the granulations are touched up with tincture iodine and dusted with Bier's powdered nitrate of silver.

To promote epithelial regeneration, 8 per cent. scarlet-red ointment is advised. The use of flaxseed poultice or bichloride of mercury applications are forbidden. Auto-inoculation of adjacent parts is prevented by shaving the area of skin wide of the furuncle and disinfecting with alcohol and tincture of iodine, with benzine or Burrow's solution. Local disinfection should be repeated at each dressing.

If a patient is seen for the first time with a furuncle well advanced in the second stage, a small incision through the thinned skin is recommended. No squeezing is to be tried in any stage. Use the drain, Bier cup, and remove the pus. To hasten the subsidence of the enlarged lymph nodes and of the acute hyperplasia about the furuncle, 1½ grs. thiosinamine three times daily, after meals, are given.

Immunization with anti-staphylococcic serum is also mentioned. Passive immunization during the period when there is a furuncle on the body and active immunization in the passive stage to prevent future appearance of furuncles, are advised.

In bacteriemia, on the other hand, bacterins are contraindicated, because here they would add to the toxins, with which the body is already surcharged. Autogenous bacterins are preferred. Yeast is also recommended, especially in cases of recurrent furunculosis.

In cases where the furuncle is exceptionally large and severe, a 3 per cent. solution of novocaine is injected through the sound tissue at the margin of the furuncle and plunged under the base of the tumor. After it is anesthetized, the core is removed from the center of the tumor by means of a curette. This method is also applicable in cases of furuncle on the face.

Hiccough, Treatment of.[1]—In most cases of hiccough, says Donnelly, a physician is not summoned until all the ancient family remedies—the swallowing of ice, salt, lemon-juice, vinegar, strong spirituous liquors; holding the breath a minute or two; traction on the tongue for several minutes; taking large draughts of water while holding the breath—have been tried and proved futile. The spasm remaining unrelieved, musk, in a dose of 5 to 10 grains (0.3 to 0.6 gm.) in a solution of starch-water, may be tried; it should not be employed more than once or twice, however, as beyond that its power becomes almost nil.

[1]P. G. Skillern, M. D., *Jour. A. M. A.*, Sept. 16, 1911.

[1]J. H. Donnelly, M. D., *New York Med. Jour.*, Apr. 29, 1911.

If there be gastric or intestinal irritation one should not hesitate to use an emetic or purge.

In the severe cases the following procedures may be resorted to with success: Lavage, passage of the esophageal sound, prolonged pressure over the abdomen and epigastrium, forcible traction on the tongue, abdominal massage, constriction around the lower thorax, cold or hot pack, applications of blisters on each side of the cervical spine over the roots of the third, fourth, and fifth nerves. The following internal remedies have been suggested and used: Nitroglycerin, cocaine, spirit of chloroform, codeine, tincture of capsicum, spirit of camphor, tincture of valerian, amyl nitrite, jaborandi, asafetida, the bromides, etc. Morphine, hypodermically, is not of much value, as the effect is short lived.

Ether narcosis is always best in cases of hysterical origin, the spasms seldom recurring after return to consciousness. Faradization or galvanism is often the last resort, and is of no value unless applied by experienced hands. Application must always be made over the epigastrium or the phrenic nerves.

When the hiccough has persisted to the point of exhaustion and the patient's life is jeopardized, the following must be given by rectum, to be repeated if necessary: Potassium bromide, ʒj (4 gm.); tincture of opium, fʒss (2 c. c.); water, enough to make fʒviij (240 c. c.). The induction of sleep is generally attended by cessation of the hiccough.

Hiccough accompanying uremia is best treated with the hot pack, preceded by a hypodermic injection of strychnine.

Postprandial hiccough is usually of a chronic type, especially among hearty eaters. Attention to the diet is of prime importance. The bowels should be kept open and moderate exercise prescribed. Tincture of nux vomica, with one of the mineral acids, also proves helpful.

Surgical intervention is necessary in cases where hiccough is secondary to abscess formations, malignant and other growths. H. D. King.

In cases of hiccough caused by hysteria, epilepsy, shock, and cerebral tumors, as well as in the idiopathic cases associated with gout, diabetes, and Bright's disease, the action takes place more or less directly through the respiratory center; in irritative and inflammatory conditions of organs in relationship to the diaphragm, the action is more or less directly on the muscular nervous structure of that organ and thus, by reflex, through the cord.

In the treatment of the nervous, either hysterical or epileptic, the following may prove effective: Mixed bromides, gr. xxx (2 gm.) chloral hydrate, gr. x (0.6 gm.); syrup of lemon, q. s. To be taken in one dose. Where the case is of pure hysteria, apomorphine, ⅛ grain (0.008 gm.), hypodermically, would bring about relaxation during vomiting, followed by the sedative action of the morphine.

In the cases associated with gout, diabetes, Bright's disease, or toxemia, eliminatory measures—catharsis, bowel washing, steam baths, hot packs, etc.—must be used. Pilocarpine in large doses depresses the respiratory center, and where hiccough is caused by uremia this drug, in ⅓-grain (0.02 gm.) dose, may be employed with excellent results.

After anesthesia, abdominal hiccough may become troublesome. Often small quantities of ice or champagne quiet the spasm, or, again, sips of hot water and the assumption of the right lateral decubitus bring relief.

In hiccough due to gastritis or some irritant to the stomach, the following is useful: Bismuth subnitrate, gr. xx (1.3 gm.); cerium oxalate, gr. iv (0.25 gm.); cocaine hydrochloride, gr. ⅙ (0.01 gm.). To be taken in one dose.

Sometimes obstinate hiccough is relieved, when the patient is strong, by having him hang, with the arms extended, from some beam or pole, so that the feet do not touch the floor, and with all the abdominal muscles tense hold his breath as long as possible. Another method of treating the irritative form of hiccough is to extend the patient fully across the bed and have traction made on both extremities by attendants, while ethyl chloride is sprayed over the epigastrium.

When hiccough is associated with flatus, a bowel wash of soapsuds and turpentine combined is often efficacious, and where the distention is great the turpentine stupe often works like magic.

Morphine, while efficacious when given early, may hide the real cause of the hiccough and thus bring disaster to the physician in making the diagnosis of some abdominal condition. All inflammatory or irritative conditions that might become dangerous should be eliminated before using it.

Operation for Hemorrhoids.[1]—Else makes an elliptical incision at the summit of the hemorrhoid in order that the edges of the mucous membrane may fall together after the dissection. The mucous membrane on one side is now seized with an artery forceps at about the center of the incision and, by producing slight traction on the forceps, with the handle of the scalpel the mucous membrane is freed from the hemorrhoidal mass for about one-eighth of the circumference of the rectum. The same is now done on the opposite side, after which the hemorrhoid-bearing area is dissected from the muscularis, ligated and removed. After all has been removed that can be reached through this incision the mucous membrane is closed with a continuous suture of chromic catgut No. 1, extending into the muscularis, in order to obliterate as much as possible of the space between the two coats. The lateral quadrant having the largest hemorrhoidal mass is now attacked in the same manner, then the opposite side and the anterior quadrant last. Often three longitudinal incisions are found sufficient.

After the operation is completed a simple dressing is placed over the rectum and retained with a T-binder. Else never packs the rectum.

[1]J. E. Else, M. D., Pullman, Wash., *Northwest Med.*, Aug., 1911.

On the evening of the second day, 2 grains of calomel are given in divided doses and the next morning 1 dram of magnesium sulphate every hour until the bowels move. The movement is preceded with an enema of olive oil. After this a semisolid movement is obtained daily.

The operations performed by Else following the above technique have been entirely satisfactory.

The Folly of Packing in Post-Partum Hemorrhage.[1]—For years packing the uterus has been advocated as an effective treatment of post-partum hemorrhage, says Gillespie in the *Lancet-Clinic*. Beautiful pictures have been introduced into our modern text-books to illustrate the methods to be pursued; and the medical student goes out into practice feeling that there is one thing at least which he thoroughly understands.

It is the object of this discussion to point out some of the weaknesses, the absurdities and the uselessness of this method of treatment.

In the real typical post-partum flooding, nothing could be more absurd than to attempt this method of controlling the hemorrhage. With the flood-gates open and the stream of blood gushing to the full capacity of the vagina and squirting to the knees of the patient, before the necessary preliminary steps could be taken to begin to pack, the life of the patient would be extinct. There is but one method of treatment which the writer has found to be prompt enough to be safe and effective; namely, carrying one hand into the uterus and making vigorous friction with the other upon its fundus. Time cannot even be spared for preliminary care as to asepsis. An antiseptic solution should always be within easy reach, and if the internal hand is dipped into this the chances of infection are lessened. Ergot should be pumped under the skin in full doses until the uterus is ergotized, and a stream of hot water may with advantage be carried up alongside the internal hand, but these things must be prepared by others. The one who temporarily stems the tide must not for an instant remove either hand from its appointed task. The internal hand should, before its removal, look for any remnants of placenta, placenta succenturiata or submucous fibroid. The removal of placental remnants will take away the cause of hemorrhage, the discovery of a submucous fibroid will give warning of the danger of subsequent hemorrhage or sloughing. When uterine contraction does not stop the flow, pull down the uterus and look for and suture the laceration in its tissue, which is almost certainly present.

There are many uncertainties in obstetric practice, but of this one may be quite sure: He who believes he has saved a life, in real post-partum flooding, by tamponing the uterus deludes himself, for the fate of such cases is often decided in the first minute of the flooding.

The continuous hemorrhage of moderate amount is almost certainly due to some of the conditions we have enumerated, and will yield to the treatment suggested.

Our forefathers knew that the only safe uterus was an empty one. One modern writer suggests a plan of treatment which ignores this knowledge, which distends the organ so that it cannot retract when retraction is our only real safety, and which will stimulate contraction, to be followed by relaxation and more hemorrhage. If the uterus was a hollow, inelastic cavity, one might reasonably expect by tight packing to control hemorrhage, but the organ has, until a few minutes ago, been distended to a size sufficient to accommodate a hemorrhage of sufficient magnitude to destroy life, and the larger the uterine cavity the more copiously will the blood flow.

At a little later period a hemorrhage from a disintegrating fibroid may well be controlled by gauze packing until preparations can be made for its removal.

If the truth were known, we think it quite certain that the reputation of this method has been earned by its apparent success in cases of overlooked deep cervical lacerations, and from its being used in uteri where, from the character of the labor, the attendant feared that hemorrhage would occur. As hemorrhage occurs in only a small minority of the cases which present its predisposing factors, it is easy to build up a false reputation for any treatment employed to combat its occurrence. In the early months of pregnancy it would not be so difficult to control hemorrhage by this method, for the uterus is small, and may be filled by gauze to its full capacity, yet in the experience of the writer it has never seemed to be indicated. Many years ago he imbibed the doctrine that in abortion one thing was certain, namely, the empty uterus does not bleed. Therefore, as long as bleeding continues, he feels safe in assuming that some of the products of conception remain in the uterus, and with their removal hemorrhage has always ceased. That this is not his individual experience is amply attested by the testimony of others who assume as true the doctrine quoted above.

Uterine packing serves a useful purpose in the presence of hemorrhage before a labor or abortion has occurred, but we wish to serve the interests of humanity by assuring the inexperienced practitioner of the folly of such methods in post-partum hemorrhage at any period of gestation.

[1]Aug. 26, 1911.

THERAPEUTIC NOTES.

Olive Oil in Post-Operative Nausea.[1]—The use of olive oil to lessen and even control post-operative nausea, according to Hyde, has not merited the attention of surgeons that its success warrants. For over a year Hyde has employed it after ether anesthesia in over 100 cases, with excellent results.

[1]C. G. Hyde, M. D., *N. Y. State Jour. of Med.*, Oct., 1911.

The technic is as follows: Just as the patient is beginning to return to consciousness (that is, roll the head from side to side, slowly open the eyes, and moan), two ounces of ordinary olive oil are administered by the mouth from a cup. The patient must be sufficiently out of the ether to understand the command to drink the oil, which is then swallowed without any difficulty. It is of interest to note that after regaining consciousness, the patient does not even recollect taking the oil. Usually, within five minutes after the oil has been given there is free and copious vomiting, which in the large majority of cases, concludes the gastric disturbance. The vomited material consists of large amounts of ether-saturated mucus, free oil, and occasionally some bile. The nurse who gives the oil should be instructed to have at hand a basin and towels, and to remain by the bedside of the patient, as the vomiting which is initiated very soon after the ingestion of the oil is explosive and projectile in character. Rarely does a second vomiting attack occur, and within a short time the patient is resting comfortably, so far as the stomach is concerned, and free from nausea or retching. If the oil is not vomited, as sometimes happens, the same effect is obtained; the patient does not vomit. The absolute success of the method depends on the correct time of administration. The oil *must* be given when the patient is semi-conscious and can understand the command "to drink." If given *before this particular time*, the patient cannot swallow. If given *after* the return to the conscious state, when the patient is then nauseated or vomiting, the oil will be refused, as the sufferer is too stomach sick, and will be made more so by the sight and odor of the oil.

HYGIENE AND DIETETICS.

Diet in Cardiac Diseases.[1]—With a bad heart, it is just as important to reduce the work of digestion to a minimum as to demand muscular quiet. In very bad compensation, the best diet is that originally advocated by Carel for obesity. It consists in the strict limitation of food and drink to one quart of milk a day, a tumblerful being given every three hours. Literally nothing else is allowed to pass the lips. This is, to be sure, a starvation diet and should be kept up not longer than four or five days, but the small demands it makes upon the digestive tract, and secondarily upon the kidneys and heart, aid greatly in the restoration of function of the last organ. Later, when a more generous diet is allowed, it is a mistake to persist too long in the administration of liquid and soft foods; and this for several reasons. These soft and liquid foods, especially if albuminous, cling to the interstices between the teeth and in the folds of mucous membrane, decompose there and lead to the foul mouths with coated tongues that we so often see in these patients. Nothing cleanses the mouth so well as the thorough chewing of a cracker or a piece of toast or stale bread. Moreover, a soft food, such as milk toast, is swallowed with little or no chewing; there is practically no salivary digestion and the work of the stomach is thereby increased. It is usually far better to give the milk and the toast or crackers separately than soaked together. Finally, the work of Pawlow has shown that palatable foods are far more readily digested in the stomach than unpalatable ones. The patient, when he is on the mend, should, if possible, be given the sort of food he likes best, in small meals, carefully prepared and thoroughly chewed.

[1]A. E. Taussig, M. D., *Illinois Med. Jour.*, Sept., 1911.

Feeding in Gastric Ulcer.[1]— Singer has for the last four years carried out, with some modifications, Lenhartz's method of treatment of gastric ulcer, the main principles of which, as compared with those of the older method, being to obtain a larger value in calories with a smaller volume. In spite of the favorable statistics with regard to hemorrhages on Lenhartz's treatment, the author finds that, after a severe hemorrhage, patients can often not bear an immediate beginning of feeding by the mouth. Thus, in one of his cases in which there had been a hemorrhage eight days before admission and another on the day of admission there was a recurrence of bleeding when food was given by the mouth three days after admission, and, again, on another tried four days later; only after six days of rectal feeding alone was combined rectal and mouth feeding able to be resumed without giving rise to hemorrhage. The increase of weight in cases of gastric ulcer treated on Lenhartz's system is most striking, as seen in diagrams showing the steep rise in the weight curve. Eggs, milk, cream and butter are a good foundation for the diet and are extraordinarily beneficial for the hyperacidity so often present; when there is a good tolerance for fats the author lays special stress on the giving of cream and much butter. Carbohydrates are not absolutely excluded. Nearly always the author adds "hygiama" or bovril to the milk and puree of potatoes, and foods, such as Nestle's, Mellin's, etc., may be given. When there is much vomiting ice prepared with hygiama and milk has repeatedly been found to give good results. The loss of weight which follows a few days' absolute rest from stomach feeding is not to be considered of importance as it can soon be made up. Indeed, on Lenhartz's system, by the ninth day 2,000 calories of food value are being administered as compared with 1,000 calories on the fourth week on the older method. Rest in bed is one of the most essential conditions of a good cure of ulcer, and Singer finds that his private patients, after a cure has been effected, are much more willing to avoid indiscretions of diet than to permanently cut them-

[1]Gustav Singer, M. D., *Wiener Med. Klin.*, No. 51.

selves off from physical over-exertion. Yet absolute proof that an ulcer has healed is not present after the most apparently successful cure. With respect to treatment by drugs the author has found gelatina alba in five to ten per cent. solution and adrenalin useful in combating hemorrhage, and he often makes use of Parke Davis' extract of mistletoe in doses of two to three teaspoonfuls daily. Anesthesin acts very favorably on the symptoms, and hypersecretion and hyperacidity are often influenced by the use of the one to two per cent. solution of anesthesin in mistura amygdalina. When this fails atropine preparations, and especially eumydrin, given subcutaneously, or Merck's methylatropinum bromatum may be successful. Both Lenhartz and Leube lay stress on the early administration of iron in the form of Blaud's pills; the author has often, however, found a great intolerance of Blaud's pills to be present, and is chary of ordering iron in the early stages where recurrence of hemorrhage is threatened. In the later stages he orders iron in an easily assimilable form, especially hemoglobin preparations. In early cases he gives intramuscular injections of "metharsenate de fer." With regard to operations, the author agrees with Payr that entero-anastomosis is indicated in ulcers at or near the pylorus and in stenosis due to scar tissue, but that resection is suitable for extra-pyloric ulcers.

GENERAL TOPICS.

Ability to Discriminate Between Colors.—The ability to discriminate between colors, says the *Medical Times*, is a safe test of intelligence, in the opinion of Dr. Warburg, a Cologne physician. In his experiments colored yarns of various tints and shades were pinned upon cards and placed before school children, who were asked to designate each color by name. In all, 1800 children of various ages were subjected to the test. Dr. Warburg's opinion is that the result furnishes conclusive evidence that color perception is acute or dull in proportion to the degree of the pupil's mental development. The percentage of correct answers rose from class to class and was invariably highest among the most intelligent children. It was found not only that the eye is more sensitive to certain colors than to others, but also that the relative degree in which different colors impress the mind is definitely ascertainable. Thus, Dr. Warburg has been able to draw up a color scale, grading hues according to the strength of the impression they make. White and black are the easiest colors to recognize; red, yellow, green, and blue follow in the order named, though blue is much harder to perceive than green. Of another class, and far more difficult to recognize, are brown, gray, and violet. The perceptive power of girls is much more acute than that of boys. The result of the tests confirms the testimony of statistics, which show that two-thirds of all cases of color-blindness are among men.

Mystery Paintings.—There is at present on exhibition in London, says the *Lancet*, a picture of the Christ by a deceased Canadian artist which displays certain phenomena that are alleged to have appeared in the picture entirely without the artist's knowledge or design. On turning down the light the picture becomes a luminous surface, except for a shadow of the Cross, which appears diagonally across it. On inspecting the canvas from behind no trace of the cross is to be found, neither does there appear anything abnormal. It is asserted that experts have been unable to account for the phenomena by chemical examination of the colors or in any other way. As an offset to these claims there is on exhibition at the Dudley Galleries the picture of a monk which, on the lowering of the light, also becomes a luminous surface, the monk giving place to a shadow of the Devil, which may be described in heraldic language as "the Prince of Darkness, proper." This picture, which was painted under the supervision of Mr. William Marriott, appears to correspond in all respects to the conditions of the other; but it is expressly asserted that the effect has been intentionally produced by natural means, though what these are we are not told. There are many substances which absorb light rays and emit them in darkness. In a surface so treated any portion left untouched by the luminous solution would naturally appear dark when the lights are turned out. It was said to be an old trick to paint ghostly forms with a luminous solution on a photographer's background. These forms were invisible to the naked eye, but came out in a photograph of a person placed in front of the background.

Care of Rubber Gloves.—A manufacturer of rubber gloves gives the following directions regarding the care which gloves should receive:

"Never leave grease or oil on gloves. Keep the gloves dry and liberally dusted with some moisture-absorbing powder, such as French chalk, starch, or lycopodium. Keep the gloves at full length or rolled up, never folded, or keep the gloves entirely submerged in water or weak antiseptic solution and away from direct sunlight.

Probably the best method of putting on is for the nurse to grasp the inside of the glove (gauntlet turned back) with both hands, holding palm surface of glove down and fingers inward, while the surgeon, with hands under water, introduces his hand.

Never try to remove gloves by pulling at the fingers. Grasp the top of the gauntlet and pull the glove inside out. Submerging the gloved hand in water or pouring water into the gauntlet will cause the glove to slip off easily."

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What is the matter with the medical profession? Optimism is an admirable state of mind and much more apt to contribute to the sum total of human happiness than pessimism. But as we have had occasion to remark in these columns before, hardly anything is more potent for harm or more liable to lead mankind to misinterpret the gravest evils than blind optimism. All credit and approbation are due those who in their earnest appreciation of the good works and splendid achievements of the medical profession as a whole are ready to discount all supposed or real shortcomings and mistakes. As a body of men—and women—who have emerged from the depths of superstition and mysticism into the clear light of modern scientific accuracy and truth, conscious of their duty to the distressed and suffering, proud of their calling, and living purposeful, useful lives, the medical profession is indeed all right. No one has greater or more sincere admiration than ourselves for the qualities that enable the true physicians of this and every civilized land to do the work that is contributing so substantially to the welfare of humanity the world over. We know that there is a psychologic force or influence that fastens its hold on the general practitioner and gives to his life a degree of personal responsibility, a sort of consecration to the obligations it brings, that must be experienced to be realized. Many will scoff at this, for they cannot understand the love for his vocation that gradually comes to the real physician and leads him to look upon his work in a far different light than the sordid one of dollars and cents. Those who have known the relief that follows when a trusted physician arrives and takes charge of a sick room wherein a dear one lies between life and death, can grasp something of the nobler phases of medical practice. So also can those who have ever watched a conscientious doctor in his combat with some disease like typhoid fever, pneumonia, puerperal eclampsia or other affection where everything has depended on the alertness, painstaking vigilance and thorough attention to detail of the medical attendant. It is at the moment when a crisis is reached, and the tide sets in for recovery that the keen observer gets his inkling that the practice of medicine means something after all besides working for a fee. Judged, therefore, on the grounds of progress, of service to humanity and practical scientific achievement, it can well be said "the medical profession is all right." Yes, the medical profession *is* all right, and its tenets, its objects and its principles need no apologies, nor merit any criticism. But let us not confound the medical profession as a vocation or avocation, and all it stands for, with the practice of medicine and the individual physi-

cian. However deep may be our respect and admiration for the medical profession, we need not be blind to the evils that have crept into medical practice, or the shortcomings of the occasional practitioner. To deny that certain evils exist or that many a physician by reason of mistaken views is losing much of the real benefits that should be his, is optimism carried too far. Such a method of meeting unpleasant facts or conditions never offers the slightest aid in determining their cause or effecting their correction.

Something is the matter with the practice of medicine, at least in certain sections of the country. We might just as well meet these growing evils now as later, for every practitioner is going to feel their effects. Unlike many, we do not feel that overcrowding in the profession is one of the present dangers. It is a fact that a few years back our medical colleges, particularly those of mediocre standing, were churning out so many illy educated and poorly equipped medical men that the menace of "too many doctors" was a very real one. But this was a matter bound to right itself, for economic laws have much to do with the number of physicians in every community, and as soon as increased competition made medical practice less attractive, there was certain to be a marked falling off in new doctors. With few exceptions the medical colleges in late years have been turning out smaller graduating classes. While this may have been due to a certain extent to the gratifying and praiseworthy elevation of the standards of medical education which has made graduation more difficult, the all-important factor in the notable decrease of medical students has been widespread recognition of the fact that the practice of medicine was offering less pecuniary benefits. So the bugbear of overcrowding as a growing evil can be dismissed. Whatever danger has threatened in this direction is diminishing and if this was the only menace to medical practice, the general practitioner could look forward to a steady improvement in his income until it reached attractive proportions again. But there are far more serious problems that must be studied by thoughtful men, and first and foremost of these is the great increase of premature specialists in the various branches of medical practice. It is often said that we live in the age of specialization, and assuredly there is a demand for specialists in medicine as in every other field of human activity.

Specialism based on efficiency is to be commended and not a derogatory word can be spoken against the specialist who has acquired the qualifications that are essential for the work he essays to do. But within the past few years there has been an enormous increase of what for lack of better designation may be termed premature specialism. Young graduates fresh from college have rushed to Europe, spent a few months in attending the various clinics and then returned home to set themselves up in practice as full fledged surgeons or specialists in the treatment of the eye, ear, nose or throat. Still others after graduation have taken a two to six weeks' course in some post graduate school and on these meager grounds based their claims as competent specialists. What has been the result? Simply that which inefficiency always produces. Every capable surgeon knows only too well the harm that is being done by premature surgeons, men who have no more moral right to be practising ma-

jor surgery than a carpenter. The day is coming, and God speed it, when no man will be allowed to perform a major operation until he has qualified as a surgeon. Carstens of Detroit has called attention with characteristic force to the need of special training for the surgeon, and a good many other surgical practitioners are thinking in the same channel. They know the responsibilities that surgery entails and realize that these responsibilities cannot be properly undertaken without extended study, preparation and experience. In the meantime the evil goes on, and can any one doubt that all medical practice suffers by reason of the failures that essentially attend the work of incompetent surgeons and specialists?

The saving grace in the situation is the fact that many of these incompetent surgeons and specialists have not realized their shortcomings. "A little learning is a dangerous thing" and there can be no question that many of those who have essayed to do surgery and special practice have honestly felt themselves competent. Their fundamental shortcoming has been a lack of the sense of responsibility, and it must be confessed that the situation as regards surgery and specialization in the treatment of diseases of the eye, ear, nose or throat has not tended to create any question as to one's right or ability to do anything or everything. To a certain extent the colleges have been to blame since they have taken no pains to correct the idea that their diplomas are certificates of merit and an evidence of individual ability, whereas they are simply certificates as to the completion of certain courses of study. Then the present pernicious system of state licensure has added its share to fostering the evil of premature specialism by granting the unrestricted right to perform any operation or undertake anything in the whole realm of medical practice if the candidate only answers seventy or seventy-five per cent of the questions asked him! Could there be any more indefinite or imperfect test as to an individual's surgical ability than a written examination? And yet if he can answer seven out of ten questions to the satisfaction of the examiner, the state is perfectly satisfied as to his capacity as a physician, surgeon, obstetrician, and specialist. Finally, the principal contributory factor in the situation that has made premature specialism possible is the lack of discrimination on the part of the people. To the average person a doctor is a doctor. With surprising lack of thought they have been willing to trust themselves or their dear ones in the hands of any practitioner, the flimsiest reasons serving to dictate their choice. A pleasing personality, social distinction, church relations, personal appearance and countless other as irrelevant considerations have led individuals to place themselves under a doctor's care. Not a moment's thought or investigation have they given to his intelligence, his education, his special training or experience. Naturally any one suffering from chronic otitis media who consults a physician solely because his appearance is highly professional, is extremely apt to wish sooner or later that some interrogation had been made as to that physician's experience in treating ear diseases. Likewise an individual suffering from gall-stones who places himself in the care of his lodge physician may regret when it is too late that he had not taken the time and effort to seek out the surgeon who had made a special study of gall-stone disease, and had operated on one hundred cases to the lodge

physician's one. Let a person own a valuable horse or other animal which perchance falls sick. Does he call in the nearest veterinary or trust the animal to some individual who claims to cure disease by prayer? Not by a good deal. No matter what effort is involved he will find out the most expert and most experienced veterinary and to him alone will he trust his beast. Now this thing does not occur because individuals love their animals better than their children. It is simply due to the fact that people do not realize that discrimination is as necessary in choosing a physician as it is in selecting a veterinary. Let the people cultivate the custom of selecting their physicians, their surgeons and their specialists on the basis of education, experience and efficiency, using due and proper care to ascertain these details, and the quacks, charlatans and premature specialists will promptly disappear. Only let every person who has to undergo a surgical operation, select their surgeon with the care that ordinary precaution and self preservation would seem to dictate and the day of the inefficient, inexperienced and unskilled operator will be over for all time. Unfortunately a great many people will go on trusting themselves in the hands of the surgeon or specialist who strikes their fancy, irrespective of ability or experience. So sooner or later the state must step in and insist that the surgeon shows that he is amply qualified before it permits him to operate or gives him *entre* to the human abdomen. Likewise the specialist will be required to measure up to special standards, *not only of knowledge but of efficiency.* When this time arrives the greatest of the evils that have jeopardized medical practice will be removed. May it come before it is too late!

Another evil, which while by no means as dangerous as premature or inefficient specialism is none the less worthy of thought, is the tendency on the part of many practitioners to discount therapeutic or curative measures. It is true, as our knowledge of physiology and pathology has grown, together with broader appreciation of the value of diet, hygiene and preventive measures in general, we have more fully realized the resistive and recuperative powers of the human organism. In many ways this realization of the efficiency of the vital forces of the body has led to substantial progress in the treatment of disease. But unfortunately recognition of the protective and restorative powers of the organism has created the belief in the minds of not a few that the results attributed to therapeutic measures have in reality been due to organic activity. The pendulum of thought always swings to extremes and it was to have been expected that the evolution of remedial agents during the past two decades and the absolute confidence in their action would be followed by the exact opposite, or therapeutic nihilism. It is disconcerting, however, to the student of mankind that the human mind can reverse itself as it often does. To see physicians of established ability who a few years ago were employing—and successfully—a wide variety of remedies, to-day loudly proclaiming the uselessness of therapeutic agents *in toto,* is strange to say the least. With all due respect we cannot help but feel that such reversal of opinion is stultifying to the individual taking such a position, and inclined to destroy confidence in his judgment and mental stability. Certainly the growth of drug nihilism has not led the laity to consult the medical profes-

sion any more freely and if there has been a falling off in medical practice with a notable tendency of the people to turn to quacks, charlatans and spurious practitioners, we can only thank ourselves for our readiness to proclaim our quarrel with the very measures we have taught the public to believe in. It is a regrettable state of affairs, for while drugs and remedial agents in general have their limitations, they certainly have their place and uses. Nothing could be further from the truth than the idea that all the benefits we have been obtaining with drugs and remedies are imaginary and chimerical. It does not stand to reason that every physician has been wrong when he has anticipated and evidently obtained certain definite effects from quinine, iron, strychnine, arsenic, digitalis, nitroglycerin, ergot, aconite, strophanthus, morphine, mercury, the iodides and countless other drugs, separately or in various combinations. It may be true that in the past we have exalted drugs too highly and placed too little dependence on bodily powers. But recognition of this mistake does not make it necessary to make another and deny the value of drugs entirely. As a matter of fact, logic, good sense and sound policy will lead the intelligent physician to take the position that he cannot know any too much about drugs any less than he can know too much about the human body and its activities. Used carefully, wisely and with due regard to their limitations as well as their uses, drugs can give us material aid in correcting abnormal conditions of the body, and in this sense, in curing disease. The day of panaceas, cure-alls and absolute specifics has passed. Never again will physicians place the blind trust in medication that they once did. But with our awakening to the true value of drugs and remedial measures there will come a broader efficiency in the application of those that our judgment tells are useful and dependable. And with increased efficiency it is reasonable to expect that we will develop new confidence in the measures we see fit to employ, a confidence that is urgently needed if we hope to compete successfully with the quack and charlatan.

The investigation of Dr. Doty which was one of the most farcical affairs that ever took place will in spite of its manifest unfairness probably lead to his dismissal by the Governor. The gentleman commissioned by the Governor to hold this investigation showed his antagonism to Dr. Doty all through the hearing. But inasmuch as he has hitherto been looked upon as a man eminently fair and honorable it was hoped by the physicians of the state that his report and recommendations would consider the testimony produced in its broadest aspects, and give proper weight to the evidence and opinions of the prominent and well informed physicians who bore witness in Dr. Doty's behalf. To the great disappointment of nearly everyone who followed the case and was qualified to judge, Mr. Bulger's report was one of the most prejudiced and unfair documents it has ever been our misfortune to read. How any man with a broad gauge mind could draw such deductions from trivialities and overlook the important details that came out at the hearing in spite of every effort to smother everything in Dr. Doty's behalf, is beyond comprehension. Certainly such a report does not help one's ideals or increase one's respect for mankind. In the face of Mr. Bulger's

report the Governor will probably dismiss Dr. Doty, a man whom every physician or well informed layman knows is one of the world's greatest sanitarians; a man who time and time again has stood between the people and the hosts of pestilence, and saved us from such frightful calamities that the mind hates to dwell on them. Political exigency must be served even at the cost of sacrificing our most faithful servants. Dr. Doty may have to go—somehow we believe Governor Dix hates to do this thing as badly as we will to have him—but he carries with him the respect and gratitude of thousands of his colleagues. While there ought to be some more tangible way of showing our regard, Dr. Doty will probably feel that the hearty "well done" of his professional brethren—which has been given to him as to few other men—is, after all, not as empty as it seems.

The National League for Medical Freedom held a recent meeting in New York City, the evident purpose of which was to provoke and infuriate the people to action against the proposed national department of health. The hall was crowded, and the majority of those who attended, came prepared to demonstrate by their erudite presence that they knew far more concerning the matter at hand, than any medical man in the world. Each one ardently craved the opportunity to cry "down with the medical trust." Truly, it was an aggregation representative of popular fanatical excitement. There were "doctors" and "professors" of everything present—and many women.

A rather imposing leaflet, called *"Medical Freedom"* (Vol. 1, No. 2), was distributed among the audience. In lurid word pictures this sheet told how the dreadful medical profession was stealing the sacred rights of the people, setting forth especially what some rabid writer tries to prove is the trust-like tyranny of the American Medical Association.

Upon the first page of this enlightening publication is set forth the "aim and purpose" of the League as follows:

> "The object of this League shall be to disseminate information pertaining to and to safeguard through education and publicity, the rights of the American people against unnecessary, unjust, oppressive, paternal and un-American laws ostensibly related to the subject of health."

This is followed by the promise that the League will protect the "sacred rights" of the people, and "the right of every man to select the practitioner of his choice in the hour of sickness." Further, that said League "will oppose any legislation which endeavors to put into power any one system of healing, and use the Government prestige, money and machinery, to enforce its theories and opinions upon citizens who believe in other forms of healing."

All of this certainly looks well in print and sounds very impressive in the reading. Perhaps the National League for Medical Freedom does know what its "aim and purpose" is, but it is perfectly plain that the majority of its adherents do not. Most of them have not the faintest idea of what a national department of health really means.

The *Journal of the A. M. A.*, of Nov. 4th, 1911, under Current Comment, most admirably sums up the matter in reference to a discussion upon the Owen bill, when it says:

"—The American Medical Association will certainly favor such a change, as well as any other changes which will make it clear to the deluded sectarian dupes of the "patent-medicine" interests that the estab-

lishment of a national department of health has nothing to do with the individual practice of medicine, and that the passage of the Owen bill will not, in any way, affect the relations between physicians and patients.—As has been repeatedly stated, the Federal Congress has no jurisdiction whatever over the practice of medicine in the states. The followers of cults, fads and sects are needlessly exciting themselves. No one has any desire to interfere with their freedom to believe anything they like."

The followers of the Medical Freedom League remind one of the man who very carelessly affixes his signature to some document without the slightest idea of what it may contain. They forget the rule taught them in their early schooldays, of "never sign a paper for a stranger."

As an amusing side-light upon the great mass meeting in New York, it may be mentioned that as one left the hall he was presented with a copy of an elaborate magazine containing real gems of knowledge as to proper living, mental culture, the drugless treatment of disease, etc., etc. Articles scathingly describing how millions are killed by vaccination—how one may live a hundred years—a letter to the "Dear" editor explaining how doctors using drugs are murderers; assuring us that it will soon be a disgrace for one to have M. D. after his name—how peaches contain magnesia and are good to drive away neuralgia—how by putting plenty of table salt in your food, the chlorine will combine with the potassium in the food and cure appendicitis, with the saving of many hundreds of dollars in surgeons' fees—including commissions to their colleagues. And then we read an absurdly pathetic bit of well written fiction, telling how a little girl was murdered by vaccination; and finally, the "literary notes" which for the edification of the women (always so essential) give a review of the books for reading, beginning with one, "Knowledge a Young Wife Should Have." This in itself may be a great stride toward further education and freedom of thought, but it has been getting commonplace for some time.

And then we turn back and begin all over again at the pages of advertising matter in this wonderful little book. Well up in front our attention is held by the picture of a beauteous man of the famous snake oil cure-all variety, with a mass of curling, flowing hair reaching far down over the shoulders, an elaborately projecting mustache, and a high striking forehead, from which the silken locks are brushed back in most impressive and professional (?) manner. Below this significant portrait we are informed in small type that such representation of scientific learning is the trade mark stamped on each box—and the box contains a wonderful root which grows in the Rocky mountains only and is a natural remedy for any bodily ill, ranging from the common cough to "catarrh" of the kidneys.

By following the advice contained in the advertising section alone of this book, and by patronizing the many sanitariums and systems of cures together with the remedies extolled, one need surely have no further use for a doctor and can easily obtain anything from a positive cure for lost manhood to a gold watch—free.

Verily, gentle reader, the moon is made of green cheese—you may believe it in all confidence for it means an important step toward greater freedom of thought.

Let the National League for Medical Freedom go on with its grand and noble work; let it continue to "educate" the people—and women. Let them scream "Down

with the medical trust" until mayhap, "neuralgia" renders articulation an impossibility and they are forced to resort to eating peaches in order to "drive it away"; and then, after the fakers have led them far enough, and physical pain becomes sufficiently severe, the M. D. will be welcomed with open arms.

Sewage disposal and water famines are now such vitally related matters that they are being considered together. The old idea that rivers were nature's sewers is about given up, except by a few benighted souls, and there seems to be a wholesome public opinion forming, to end the disgusting practice of poisoning our neighbor's water supply. Legislators the country over are studying ways and means of compelling each community to keep its own wastes or destroy them. The old plea that sewage purification was merely experimental is no longer accepted—indeed it is now known that modern methods are practical and are even cheaper than the old system of immensely long sewers and canals. The only question now is what is the most practicable way of compelling each community to use modern methods? A few states are taking active steps to clean up their own water courses as a preliminary towards compelling like action on the part of more backward neighbors. It does seem time now for the federal government to get to work on the same lines, with a view of preventing pollution of interstate streams and cleaning up those now improperly used.

Modern populations must have modern sewage systems, for they will be poisoned by their own excreta by the old ways. Indeed it is known that certain districts have almost reached the limit of their population by the old ways of passing on the wastes to become a nuisance elsewhere. Then again the dense populations need more water than is available except by depopulating a distant highland and piping the water down, the cost of which may soon be prohibitive and not produce enough water even if it was within our means. The minds of engineers are therefore turning to nearby streams which must be kept clean enough to use without expensive filtration. Indeed, we may have to use such water for street cleaning and fire purposes even before it is cleaned sufficiently to drink. Some of such supplies may receive unavoidable filth and never be fit for household use, for no system of filtration is perfect and it is a cardinal principle that drinking water should be so pure and so guarded that filtration or sterilization will never be necessary. This is then the trend of municipal sanitation and we might as well adjust ourselves to it. The demand is already voiced for the local disposition of wastes and the prevention of all pollution of streams and harbors. We must obey soon.

The difficulties of diagnosis in early tuberculosis are acknowledged by the best experts who not infrequently are candid enough to tell the patient that diagnosis is impossible. We can not even depend on a negative tuberculin test, for it may be positive in cases of fever due to other causes, and negative in the tubercular, particularly advanced cases. Jacobi (*Arch. of Diagnosis,* Apr., 1911) is quite positive that a diagnosis is often made where the disease does not exist and that these spurious cases swell the reports of institutional and dispensary "cures." Post mortem signs of



THE SKELETON IN THE HOUSEWIFE'S CLOSET!

apex sclerosis are very generally taken as evidence of cured phthisis and are the basis of the general opinion that most of us get infected and are cured without knowing we were ever tubercular, but as Jacobi now states that pulmonary hyperplasia with secondary cirrhosis is very frequently an independent disease, without any relation to tuberculosis, we must revise our opinions. We are also much more uncertain as to whether the pretubercular stage is a long period of latent infection or of reduced health from other causes—merely a period of greater susceptibility to the bacilli we all constantly encounter and resist. Therapeutically it makes no difference, for the treatment is the same; but it makes a lot of difference as to how we interpret early signs and symptoms and what we tell the patient. We must now look askance at all those finer distinctions which are so glibly rattled off as indicative of tubercular invasion. It takes a big man like Jacobi to spank us properly and we ought to behave better now. Why not be candid and have a class of "awaiting diagnosis" on our books, and if they get well without a diagnosis, simply label them "unknown" or "probably so and so." Honesty impresses more than undue positiveness even if we merely wish to impress the sick like a quack, but as a matter of fact we make a favorable impression when we say, "I do not know now but must watch you." The lower orders insist on a positive diagnosis only because we have been in the habit of being positive, right or wrong. They will reform when we do.

The death rate of New York City has shown a steady decrease for some time past. Recent figures have placed it as low as 12.12 per thousand in a given week. Such a record at once points out the marked efficiency of the health department, the deeper knowledge and appreciation upon the part of people in general of all things relative to personal hygiene and prophylaxis against disease, and emphasizes the fact that the city is of itself comparatively healthy.

There has been a decided falling off of deaths from diarrheal troubles occurring among young children, which although is to be expected with the advent of cooler weather, strikingly proves the value of the instruction in child hygiene which has been given to parents, together with the admirable work of the New York Milk Committee and health department, in the management of infant feeding.

The establishment of a sufficient number of milk stations throughout the city, is one of the most important factors governing the preservation of health of the future people, and it is to be regretted that the City Budget for 1912, in order to grant a large sum of money for equal pay of school teachers, etc., cut down the appropriation for milk depots and accompanying supervision, which means so much to the welfare of the children.

It is well to keep the City Budget as low as possible, provided it is done without curtailing appropriations for execution of these health ordinances that have been proven so necessary and effective. The consideration of health should stand above everything else, but in cutting one hundred items from the appropriation for the health department, the officials must have passed over many matters which are of the greatest importance to the people at large.

Facts and figures do not lie and since statistics prove the benefits of the work of our health department, why not further the scope of its effort by affording it suffi-

cient means, and not handicap earnest, capable officials by a lack of funds? If there is any one department that should not be subjected to "picayune politics" and "lime-light economy," it is the local health department.

Premature conclusions on insufficient evidence have always been the curse of medicine. When a man carries a potato in his pocket and his rheumatism disappears, we call him a fool for asserting that the potato cured the disease. Nevertheless we physicians are just as credulous because just as human. No better illustration can be found than in the early literature of "606" or salvarsan, and among the thousands of baseless assertions we pick out that by S. J. Meltzer in an editorial in the *N. Y. State Journal of Medicine* of October, 1910, because it is so typical of our besetting sin of jumping to conclusions, even in the scientific laboratory where all means are taken to prevent such an error. He stated that this new drug "sterilizes the entire infected body with one single injection in less than twenty-four hours," though there was not a particle of evidence on which to base such a conclusion,—that is, evidence according to legal rules. Six months later, Dr. W. S. Gottheil, on the strength of actual trial in 44 cases, says (*The Internat. Jour. of Surg.*, Mar., 1911) that it "does not cure syphilis," and "does not displace mercury in the treatment of ordinary cases." Moreover it is found dangerous in certain conditions, and that even when we wish to use it to hasten the disappearance of evident symptoms, we must not use it intravenously as first advised from the laboratory. In predicting the possible final eradication of syphilis, Meltzer stated that physicians should not forget that "this brilliant new remedy * * * came from theoretical laboratory studies." We won't forget it and ask Mr. Pritchett to take note of it. Practical men have long been resenting the halo which research workers put over their own heads, and though the laboratory is an indispensable, invaluable part of scientific medicine, we hope the incident will induce the worker to copy that humility of the practitioner who so often feels helpless in the face of the unattainable. In this case the humble practical man was more scientific than the scientist, in that he waited for facts before he announced an opinion.

It is a curious psychological fact that very many people who are excessively sensitive to the unpleasant in their own sensory or mental impressions are among the most indifferent to the sensitiveness of the sensory or mental impressions of others. Often, doubtless, they are unconscious of the existence of anything unpleasant about themselves or their habits, but there is only too great reason to fear that even were they conscious it would make small difference. They would still continue to inveigh against what displeases them, without any attempt to avoid irritating the sensitiveness of others in other matters. Thus it is said by those who have got to the inner heart of the colored man and the Chinaman, that to him the odor of the white man is quite as unpleasant as his odor is to the white man.

The proposed legislation to make it illegal to smoke in public place of any kind, sponsored by Dr. Harvey Wiley and supported by many presidents of colleges and other high university officials, can be based only on the fact that to a certain proportion of people the odor of tobacco is unpleasant; therefore, they argue, the odor ought not to be allowed to be emitted in places where all and sundry congregate

or are compelled to pass, and smokers should, in their opinion, voluntarily deny themselves the pleasure of an odor which is to them as fragrantly sweet as it appears to be objectionable to certain others; or failing such voluntary self effacement, they should be legally debarred from "polluting the atmosphere with noxious odors." But if such a principle were to be adopted by all people who happen to have antipathies, life would become intolerable for all of us.

We wonder if it has ever struck any of these more fanatic anti-tobacconists. especially among the women, that to thousands of people the various scents that are particularly dear to the female, and sometimes even the male heart for increasing, as is supposed, personal attractiveness, are in no degree less objectionable and offensive than the odor of tobacco is to others. What would they think of an attempt to prohibit the use of any scent in any public place? Yet if, because the odor of tobacco is not pleasant to a certain number—it cannot be an overwhelmingly large number, seeing what a very large proportion of the people smoke, while quite a considerable proportion of nonsmokers have no objection to the odor —an equally large number are to be prohibited from enjoying it in public, surely those who have a strong repugnance to other things are equally entitled to have their sensitiveness considered.

We are not now discussing the pros and cons of tobacco smoking, on the various sides from which it may be attacked or defended; but merely the attempt to prohibit its practice in public, which specifically can have no other basis than aesthetic grounds. To thousands of people the sight of a person chewing gum is a repulsive spectacle; chewing tobacco, with its usually concomitant expectoration, is worse; snuff taking is almost as bad. Against these sights, it is true, the person who objects can to some extent protect himself by averting his gaze, while it would be practically impossible for anyone to keep his nostrils permanently occluded to any odors, whether of tobacco or any other fragrant scent. But the strident tones in which many people laugh or talk, the disagreeable hawking and snuffling sounds that others make, and many other habits which might be mentioned, are not so easy to protect oneself against. The truth is that many sensory impressions are intensely unpleasant to certain people and just as delightful to others. So that in matters of aesthetics it has always been considered a sign of good breeding to efface one's own susceptibilities or preferences in the presence of an unmistakable preponderance of a susceptibility of the opposite kind. Thus, a smoker endowed with ordinary gentlemanly instincts would refrain from smoking where it was clearly offensive to a large majority of those present at the time, or, in the alternative, would betake himself where he could smoke without giving reasonable offence. In like manner the nonsmoker, finding himself—or herself—where smoking was the rule, or at least was not objected to by the majority, would follow the converse practice. And these remarks apply with equal force to everything within the domain of aesthetics. If we are all to band ourselves together into groups, each of which is to strive to prohibit others from doing that which is unpleasant to us individually, the social world will become a very good place to get out of, and each man will have to select his own little plot and put a fence round it lest he offend, or be offended by, his neighbor. Such freakish restrictive legislation on matters of aesthetics is both puerile and tyrannical.

ORIGINAL ARTICLES.

FREUD'S "APPREHENSION NEUROSIS."[1]

BY

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Of the fruits of Freud's genius nothing is of greater value to the general practitioner than his brilliant differentiation of the symptom-complex which he termed "Angstneurose," from that of true "Neurasthenia." When, in 1879, Beard published his treatise on Neurasthenia ("Nervous Exhaustion") it was welcomed enthusiastically by a medical public which rejoiced in having at last found a suitable theory and an appropriate name to apply to a large number of puzzling chronic ailments. But in 1895 Freud succeeded in proving that the convenient appellation "Neurasthenia" was only a mask for the inability to differentiate between certain cases of hysteria, obsessions, melancholia, incipient dementia precox, early stages of paranoia, beginning general paralysis, etc., and true neurasthenia. His psychanalytic labors convinced him that the largest number of those who were supposed to be suffering from neurasthenia were really afflicted with a disease which by reason of a definite etiology, mechanism and symptomatology, constituted an independent entity. This entity he called "Angstneurose" (Apprehension Neurosis).[2]

Apprehension neurosis owes its name to the fact that several constituents of the disease so called centre about the main symptom, viz.: morbid apprehension of impending misfortune, and that every one of the symptoms bears a certain relationship to morbid apprehension and may be considered a derivative of it.

Clinical Picture.— The clinical picture of apprehension neurosis, with its customary admixture of hysteria, includes the following symptoms:

1. *General irritability.*—This is a manifestation of many nervous conditions but is a constant feature of apprehension neurosis, and indicates either an accumulation of excitement or an inability to endure such an accumulation, i. e., an absolute or a relative accumulation of excitement. This hyper-irritability manifests itself as an excessive reaction to all internal and external stimuli, the commonest being an excessive sensitiveness to sounds. This *hyperacusis* is one of the chief causes of the distressing *insomnia* which makes these patients so miserable and is responsible for the household tyranny of whispered conversation, muffled bells, boarded windows, etc.

Severe cases are characterized by typically sudden changes in the patient's moods, varying from almost maniacal excitement to melancholic depression. The excitement may attain such intensity that the patients make attempts at suicide, which, fortunately, are not intended to be successful. Most of these patients are "cranks," everything seems to go wrong with them, nothing is done to suit them, and they are in a constant state of irritation. This tendency to convert apprehension into anger (vide infra) is a characteristic psychological factor in the life of the person afflicted with apprehension neurosis.

Other cerebral and spinal symptoms occurring in this disease are *migraine*, spells of *yawning*, *exaggeration of the reflexes*

[1] Read before the Eastern Medical Society of New York, Nov. 10, 1911.

[2] I prefer the term "Apprehension Neurosis" to "Anxiety Neurosis" because "apprehension" refers to something present and always connotes fear, whereas "anxiety" refers to the future and implies desire or hope.—The Author.

and even *hallucinations* (especially in children and in combination with hysteria).

2. *Apprehension.*—The essential symptom of apprehension neurosis is a morbid apprehensiveness or fearful anticipation of misfortune. The most trifling occurrence, such as going out in bad weather or walking in a lonely neighborhood, gives rise to an immeasurable fear for life or limb; the slightest pain arouses thoughts of some serious disease requiring a major operation and entailing great expense; if the husband is five minutes late for dinner the patient conjures up a harrowing vision in which she sees him horribly mangled in a railroad accident; if a child coughs at night the mother is in a panic of fear that it is dying of croup; a creaking floor or a banging shutter fills the patient with terror of burglars, etc. Most of the patients are aware of the unreasonableness of their fears and try in vain to force themselves from the tyranny of their compulsive apprehensions.

This apprehensiveness does not always manifest itself in the same way or in the same degree. Lowenfeld distinguishes four types of this morbid dread:

A. *Hypochondriac anxiety,* i. e., apprehension concerning one's health. This may be acquired as a sequel to some mental shock or other factor involving an injury to the nervous system.

B. *Moral apprehensions,* i. e., an abnormal application of moral and religious scruples to the most ordinary undertaking or actions which is an extremely frequent cause of *compulsions.* One variety of this anxiety manifests itself in an excessive scrupulousness as to social customs, a punctilious observance of the social conventions that smacks of priggishness, pedantry and snobbishness.

C. *Abnormal apprehensions as to the health of one's near kindred* (children, parents, husband, wife, etc.)—This manifests itself in a morbid anxiety concerning the health of some member of the family who may be suffering from some trifling ailment.

D. *Abnormal apprehension concerning one's business affairs.*—Every little difficulty is magnified to such an extent that business failure seems to be inevitable. They are typical "calamity howlers."

This morbid apprehensiveness is undoubtedly due to the existence in the mind of a quantity of free fear which is at all times ready to associate itself with any suitable idea.

3. *Attacks of apprehensiveness.*—The characteristic feature of this neurosis is an attack of apprehensiveness which may occur suddenly or after some psychic precursor, such as slight depression, irritability, etc. The manifestations of such an attack bear a striking resemblance to the phenomena accompanying coitus or sudden fright; but as the phenomena accompanying coitus vary with different individuals so do the symptoms in these attacks vary. Some of the patients suddenly become pale; the pulse is small, rapid and frequently arhythmical; the patients are distressed by a feeling of impending death, insanity, or apoplexy; they gasp for breath and are speechless; profuse perspiration breaks out over the entire body and the hair stands on end; cramp-like pains in the abdomen, diarrhea, vesical tenesmus, and chills not infrequently accompany the attack. At times there are also present migraine, numbness, vertigo, tachycardia and crying spells, and the patient may lapse into unconsciousness. Obviously all of these symptoms do not appear in each attack or

in each patient; any one or any number of them in various degrees of intensity and in various combinations may constitute the attack. Freud, accordingly, divides the attacks into the following four types:

A. Those consisting wholly of a feeling of apprehension without any associated idea, i. e., a mere indefinite fear.

B. Those consisting of a feeling of apprehension plus a compulsive and distressing idea of immediate death, insanity or apoplexy.

C. Those consisting of a feeling of apprehension plus some of the paresthesias (akin to a hysteric aura).

D. Finally, those consisting of a feeling of apprehension plus a disturbance of one or more of the bodily functions (respiratory, cardiac, glandular, or vasomotor). Some patients make their chief complaint the "cramps about the heart," others the "shortness of breath," others the outbreaks of "cold sweats," others a feeling of "great hunger," etc. Not infrequently the feeling of apprehension is wholly unnoticed in the presence of these symptoms or is represented by a sudden sick feeling, uneasiness, discomfort, etc.

Stekel points out that such attacks can always be shown to have been precipitated by the workings of some repressed painful idea and that the first attack, as a rule, follows directly upon frustrated excitement.

4. *Rudimentary attacks.*—From the preceding remarks it is evident that different attacks vary greatly as to the proportions of the various elements entering into an attack of apprehensiveness and that almost any one of the associated symptoms may *per se* constitute the attack. Freud therefore speaks of *"rudimentary attacks"* and of *"equivalents of attacks."* These substitutes for an apprehension attack may take any one of the following forms, according to the most prominent symptoms:

A. *Cardiac.*—Cardiac disturbances are the commonest and the most characteristic form of this "substitute attack." The patients are suddenly seized with *"pain about the heart,"* palpitation with brief arhythmia or long lasting tachycardia going on to serious cardiac weakness. Such cardiac attacks ("nervous stenocardia") must be carefully differentiated from organic cardiac conditions, angina pectoris and pseudo angina pectoris; but the existence of an organic lesion does not exclude the presence of apprehension neurosis.

B. *Respiratory.*—Respiratory disturbances are next in frequency as substitutes for apprehension attacks. Under this heading are included several forms of nervous dyspnea, sudden air hunger, a sense of suffocation, profound sighs, a tight feeling in the chest, asthma-like attacks with or without bronchial catarrh, etc. These attacks occur chiefly at night and may be associated with a feeling of apprehension. It is characteristic of these symptoms, as of all the other apprehension equivalents, that the patient's suffering is out of all proportion to the organic condition found on *careful* examination.

C. Profuse *sweats,* frequently nocturnal.

D. *Trembling* and *shivering.*—A frequent accompaniment or substitute for such an attack is the trembling of an arm, a hand, a limb, or even the whole body. *Chills* and chilly sensations are not rare occurrences.

E. Attacks of *voracious hunger* or a feeling of emptiness in the stomach, frequently associated with dizziness, are not uncommon substitutes for an attack. It is characteristic of these cases that the intense hunger comes on suddenly during the day

or night and that even a large meal does not allay the hunger.

F Occasional attacks of *diarrhea* lasting for several days, in spite of which the patients look well.

G. Attacks of *locomotor vertigo* which may be the commencement of a locomotor phobia (agoraphobia).

H. Attacks of so-called *"congestions,"* including all sorts of conditions that have been described as "vasomotor neurasthenia," chief among which are vasomotor edema and sudden loss of power in a finger, a hand, an arm or a foot (vasomotor angina pectoris). During one of these attacks the blood rushes to the head, the face becomes hot and red, there are flashes of light or dark spots in front of the eyes and there is a roaring in the ears. Any of the other symptoms may also be present. Localized *edemas,* alone or in combination with other symptoms, are not at all rare.

I. Attacks of *paresthesia* (numbness, formication, gooseskin, etc.) are not unusual and are most frequently associated with a feeling of apprehension. They may be sufficiently severe to give rise to melancholic brooding and even be a cause for insomnia.

Among the apprehension equivalents Stekel includes vesical tenesmus; occupation neuroses (writer's cramp, etc.); sudden sobbing; a sudden feeling of great fatigue (which may terminate in unconsciousness); vomiting; sudden paresis of one or more fingers, the whole hand, or an extremity, and migraine. Many of these symptoms have been unnecessarily described by various authors under different names as separate pathologic entities.

5. Not infrequently patients suffering from apprehension neurosis suddenly awake from their sleep (*pavor nocturnus of adults*), usually with a feeling of dread, dyspnea, perspiration and a feeling that something terrible is going to happen. This is really only an abortive apprehension attack and is a second and important cause for the distressing insomnia from which these patients suffer.

6. A very common symptom in this neurosis is the occurrence of *distressing dreams* from which the patient wakes with a shudder, trembling, perspiring and frightened. This sudden awakening from sleep after such fearful dreams occurs most often in widows, ungratified women, engaged girls, etc., and is a characteristic kind of sleep disturbance. These "anxiety dreams" may be classified thus:

A. Those in which the dreamer is in danger of being bitten, killed, rent or gored by a large or fierce beast (such as a horse, a mastiff, a stallion, a bull, a lion, etc., i. e., such animals as are commonly employed as symbols of great power and "animal passion").

B. Those in which the dreamer is in danger of losing her life at the hands of a robber or burglar wielding a loaded gun, a club, or a long sharp dagger, knife, stiletto, etc. These are even more characteristic than the former.

C. A very common and typical dream of sexually unsatisfied women is that of being assaulted in a public place.

D. Very typical are also the dreams dealing with deaths and funerals, especially of relatives, and more particularly of a child.

E. Men dream of being in great danger of failing at an examination, of being charged with a criminal offence, etc.

7. *Vertigo* is one of the most characteristic symptoms of apprehension neurosis. In the mildest cases it is only a *momentary confusion* which comes and goes like a

flash. In the severer cases it manifests itself as a disturbance in locomotion and coordination (as in paralysis of the eye muscles); the earth seems to rock, the limbs feel heavy as lead and seem too weak to bear the body up. This vertigo never causes the patient to fall; but it may be replaced by a sudden *"fainting spell"* such as may occur also as the result of cardiac collapse. Not infrequently the attack of dizziness is accompanied with very distressing fears, with or without respiratory and cardiac disturbances. The attack of syncope may be ushered in by a sudden and inexplicable feeling of great fatigue.

The dizziness that some persons feel when they are at a great height is very often only a manifestation of apprehension neurosis.

There is no more difficult task for the physician than to distinguish these attacks of vertigo from those due to cerebral, arterial, renal, ocular or aural lesions or to certain intoxications.

8. On the basis of the chronic apprehensiveness on the one hand and the tendency to attacks of dizziness on the other there develop two groups of typical *phobias*, one general and one pertaining to locomotion. To the former belong (a) the fear of spiders, snakes, vermin, storms, darkness, etc., as well as (b) a typical excess of moral scrupulousness and forms of excessive hesitation, irresolution, and doubtfulness (amounting almost to a doubting mania). In all these manifestations there is only an application of the free fear to the augmentation of the instinctive aversions present in all persons. To the second group belong the condition known as *agoraphobia* and its allies, all of which are characterized by some disturbance referable to locomotion. Very frequently an attack of vertigo is found to have preceded the phobia and to have been the basis for it. Parenthetically we may add that most of our virtues owe their origin to similar causes and that their development has the same mechanism; in other words, our virtues (goodness, liberality, devotion, loyalty, etc.) are the expression of our fears and of the criminality inherent in all mankind.

9. The disturbances of the *digestive functions* are characteristic. Among them we include loss of appetite, nausea, vomiting, disgust at the sight of food, an inability to eat, constipation, gastric pains, intestinal cramps, rumbling in the abdomen, belching, etc. A feeling of great hunger, abdominal pains and vomiting, alone or in combination with other symptoms ("congestions"), may constitute a rudimentary attack. *"Nervous vomiting"* is, far more often than is generally believed, the main or only symptom of apprehension neurosis.

There is a large class of patients suffering from gastric symptoms who cut off one article of diet after another until they eat almost nothing during the 24 hours and who not infrequently force themselves to vomit after each attempt at a meal. They literally starve themselves till they are reduced to "mere skeletons" and suffer from pains which are nothing but hunger. The reasons they assign for the food restriction are fears that the various articles of diet are injurious, fears of appendicitis, fears of uric acid, etc. In many of these cases there is undoubtedly a hysterical element.

10. The *paresthesias* that occasionally accompany the dizziness or the apprehension attack are of interest because, like the sensations in the hysteric aura, they observe a definite sequence. But, in contrast with the hysteric aura, these associated sensations are atypical and variable. Many so-called "rheumatic pains" or "gouty pains"

are really only apprehension neurosis paresthesias. A tendency to *hallucinations,* not of a hysterical nature, undoubtedly occurs in a few cases of apprehension neurosis.

11. Many of the symptoms enumerated above, especially the diarrhea, vasomotor congestions, vertigo, and the paresthesias, may become chronic and when this occurs the diagnosis becomes a very difficult matter. In chronic cases the characteristic apprehensiveness is not clearly marked and the vertigo may be replaced by a permanent sensation of great weakness, feebleness, etc.

In connection with the clinical picture presented by this disease it is of the utmost importance to bear in mind that in a very large number of cases the disease coincides with a decided *diminution of sexual libido* (psychic desire). It is almost the rule for patients suffering from this neurosis to deny that they are libidinous and to protest that they are "quite cold."

Another significant fact in the clinical picture of apprehension neurosis is the fact that in many cases a definite periodicity in the symptoms can be established.

Among the rarer symptoms occurring in apprehension neurosis are the following: singultus, perineal cramps, writer's cramp and other occupation neuroses, trifacial neuralgia, vaginismus, esophagismus, urticaria, pruritus cutaneus, dermographia, and periodic emaciation.

In children.—Children suffering from apprehension neurosis show the following symptoms: a sudden increase of the normal fear of being alone or in the dark; a sudden increase in the number of questions pertaining to the natural sciences (a mask for more vexatious questions occupying the infant mind); a certain irritability and restlessness; slight chronic twitchings and grimaces, and inattentiveness at school. Many of them suffer from insomnia, restless sleep, somnambulism and pavor nocturnus. Insomnia is frequently the first and most conspicuous symptom. A child's refusal to sleep alone, to go to sleep in the dark, and its insistence on sleeping with one of its parents, are always significant manifestations. Other symptoms occurring in children are bad dreams and hallucinations, eczema, urticaria, enuresis, occasional diarrhea, boring the nose, asthma-like attacks, and, occasionally, slight attacks of syncope. It is almost superfluous to add that the utmost caution must be observed in making a differential diagnosis.

Occurrence.—Apprehension neurosis is such an extremely common disease of civilized man that hardly a single practitioner of medicine can help seeing at least one case a day. It is no exaggeration to say that it is the commonest disease affecting the dominant types of civilized man and that at least 95% of the cases diagnosed as "Neurasthenia" are cases of apprehension neurosis plus hysteria. Severe cases uncomplicated with hysteria or a psychosis are extremely rare. No age is free from it; children from two to three years of age are just as liable to the disease as men of 60 or 70 and women in or past their climacterium. It occurs with equal frequency in men and in women; but in the latter it is *almost always associated with hysteria* and in the former with neurasthenia (exceptionally with hysteria or compulsions).

Etiology.—1. Briefly stated the specific etiologic factor in all (acquired) cases is *a series of injurious influences emanating from the sexual life,* the effect of which may be stated to be an insufficient or inadequate discharge of the existing libido. A person who leads a normal sexual life

cannot become afflicted with a neurosis or a psycho-neurosis.

2. Among the banal (i. e., non-specific) causes the most important, and one which is almost invariably present, is a *psychic conflict,* i. e., a conflict between the libido and some other powerful affect (fear, disgust, shame, etc.) leading to too rigorous sexual repression.

3. An obscure but important factor in the development of apprehension neurosis is the individual's *sexual constitution.* This undoubtedly varies with different individuals and accounts for some puzzling phenomena in connection with this disease, such as why some persons are voluntary abstainers, why some develop the disease quickly and others only after a long interval, etc. In connection with this it is important to note that totally impotent men and wholly anesthetic women cannot develop a severe form of this neurosis.

4. The exact role of *hereditary predisposition* has not been determined although it undoubtedly plays some part in the etiology and in some cases an important part. There are rare cases in which serious hereditary impairment is the only ascertainable etiologic factor.

5. Other banal factors (overwork, exhaustion, shock, etc.) are undoubtedly present in a large number of cases, but they act only as *exciting causes* which precipitate the outbreak of the disease.

In most cases the production of apprehension neurosis requires the cooperation of several of these etiologic factors (specific and banal); but the sexual factor is the only one which is invariably present and which may produce the disease unaided by any other factor. The specific sexual factor bears the same relationship to apprehension neurosis that the tubercle bacillus does to tuberculosis or the plasmodium to malaria.

The most frequent causes of apprehension neurosis in women are ejaculatio precox, coitus interruptus, coitus reservatus, and abstinence; fortunately these are also the most easily curable.

Freud tabulates the conditions under which men and women develop apprehension neurosis separately, as follows:

A. In *virgins* and *adolescent girls* upon their first post-childhood encounter with the sexual problem either as the result of forbidden literature, an immoral play, a confidential talk with a married woman, the sight of the male organ, the accidental witnessing of the sexual act, etc. These cases are almost always combined with hysteria and constitute the very common condition known as "apprehension hysteria."

B. In *newly married women* who, because of a partial anesthesia, do not obtain complete sexual gratifaction.

C. In women whose husbands suffer from *partial impotence* or *ejaculatio precox.*

D. In women whose libido is not satisfied because their husbands practice *coitus interruptus* or *coitus reservatus.* The former is always harmful unless the husband, out of consideration for his wife's gratification and at the risk of his own health, waits for her emission before withdrawing. Coitus condomatus is not injurious to the woman if the man is very potent and she easily excitable.

E. In *widows* and in *voluntary abstinents.* Not infrequently these also suffer from compulsions.

F. In women going through the *climacterium* with its great final augmentation of the libido.

G. *In neurasthenic women who suddenly stop masturbating.*

H. In a few cases of *overwork, exhaustion,* etc., and even after a *severe illness.* But there can be very little doubt that these act only as exciting factors in those suffering from excessive sexual excitement without adequate sexual relief.

Of the etiologic factors just enumerated the following apply to men as well as to women:

A. *Overwork, exhausting diseases,* etc.

B. The *sudden cessation of masturbation* by a neurasthenic.

C. *Voluntary abstinence* (frequently combined with hysteria or compulsions).

D. *Coitus interruptus* prolonged until the woman's libido is gratified. To these we must add the following:

E. The *augmented libido of the senium,* corresponding to the climacterium in women. In elderly gentlemen the augmented libido, the diminished potency and a feeling of shame, very frequently result in apprehension neurosis.

F. But the purest cases of apprehension neurosis are due to *frustrated excitement* in engaged couples and in persons who, out of fear for the consequences of sexual intercourse, have to content (?) themselves with looking, touching, etc.

Pathogenesis.—In seeking to determine the nature of apprehension neurosis and the mechanism of its development, Freud found that the only thing that mattered was whether the individual's libido was or was not gratified. He was also struck with the similarity between the symptoms of apprehension neurosis, certain nervous diseases (Basedow's disease, Addison's disease) and certain alkaloid toxemias. But recent researches show that Basedow's disease and Addison's disease, etc., are toxemias resulting from some impairment of the (secretory) functions of the thyroid gland, the thymus gland, the suprarenal bodies, etc. Bearing in mind that the fear which is at the basis of apprehension neurosis is not a psychic derivative, as can be easily shown, and that the sexual anesthesia or indifference present in a large number of cases is really the expression of repressed libido, we see the justification for Freud's conclusion that in apprehension neurosis we are dealing with an accumulation of excitement, which excitement is of a sexual nature. He thus formulates the following tentative explanation of the pathogenesis of this disease: *the mechanism of apprehension neurosis is to be found in the deflection of the somatic sexual excitement from the psychic and a consequent abnormal expenditure of that excitement as apprehension.*

This conception of the mechanism of apprehension neurosis becomes clear if one considers briefly the normal sexual process which we may assume to be of the same nature in females as in males. In a sexually ripe male there is constantly being produced somatic sexual substance which constantly irritates the nerve endings of the seminal vesicles. This irritation continues until there results a *psychic irritation* which powerfully stimulates the cerebral sexual centres and produces a condition of *libidinous tension* having all the characteristics of acute or chronic intoxication. With this tension there comes the impulse or craving for relief. The relief of sexual tension, the climax of the intoxication, is perceived as pleasure. The adequate psychic relief can be brought about only in one way, viz.: by a complicated spinal reflex act which Freud calls *the specific* or *adequate act.* This specific act must remove the psychic excitement completely. Anything else but

the complete removal of the psychic excitement by the specific act will not do because the somatic sexual excitement, after it has attained a certain intensity, keeps on continually translating itself into psychic excitement or free apprehension which lies ready in consciousness to associate itself with any appropriate idea. If the adequate discharge (i. e., normal coitus under favorable circumstances) is replaced by an inadequate discharge (excessive masturbation, frequent pollutions) neurasthenia will result almost inevitably, and if the psychic consumption of the somatic sexual excitement is interfered with the result will be apprehension neurosis. That this interference occurs under the different circumstances mentioned in the section on "etiology" can be easily shown.

In consequence of voluntary abstinence and frustrated excitement there is an accumulation of somatic sexual excitement and a diversion of that excitement into other channels; the libido finally sinks, and the excitement manifests itself as apprehension.—Coitus reservatus, ejaculatio precox, and coitus interruptus are injurious because they disturb the psychic readiness for sexual relief by imposing a diverting psychic task on to that of overcoming the sexual effect; because of this psychic distraction the libido gradually disappears, the excitement disseminates itself subcortically and manifests itself as apprehension.—In the climacterium of men as of women the psyche is relatively insufficient to overcome the excessive somatic excitement. (In women an alienation between the somatic and the psychic in the discharge of sexual excitement can be brought about more readily and can be removed with greater difficulty than in men.) —Serious illness, overwork, exhaustion, etc., predispose to apprehension neurosis because the general exhaustion renders the psyche relatively insufficient to consume the sexual excitement.

Without going into detail we may say that Fliess has shown that normal sexual excitement consists of two components: (a) the conscious (masculine) libido, and (b) the unconscious (feminine) apprehension. The normal sexual act, as we know, is accompanied by manifestations of fear (slight oppression, congestion, rapid pulse, perspiration, etc.). If the libido is not permitted to become conscious, or is masked, or is associated with a painful affect, it is repressed from consciousness and the unconscious component — apprehension — attains the mastery.

From this point of view the symptoms of apprehension neurosis are to a certain extent the substitute for the incomplete specific consumption of the sexual excitement.

Diagnosis.— In acute cases the diagnosis is usually a comparatively easy matter, but chronic cases tax the diagnostician's acumen to the utmost. It would take us too far afield to attempt a differential diagnosis between apprehension neurosis and the many conditions, organic and functional, with which it is often confounded. Nothing but the most careful examination, subjective and objective, will guard one against serious errors. The importance of a correct diagnosis cannot be overestimated.

It is a wise rule in every case presenting symptoms that are neurotic, or that may be so, to inquire carefully into the sexual life of the patient; but such inquiry must be careful and thorough. The experienced physician will not be satisfied with the patient's off-hand assertion that he or she doesn't give sexual matters a thought.

Prognosis.—Cases of pure apprehension neurosis, being due to only a single etiologic factor, are easily and speedily curable. It is no exaggeration to say that in some cases a single consultation will lead to a cure. But by far the larger number of cases of apprehension neurosis contain an admixture of hysteria, compulsions, etc., and their treatment may—nay, should—last anywhere from two or three months to two or three years. In general it may be said that of all nervous diseases apprehension neurosis is the most easily and certainly curable.

Treatment.—The treatment of apprehension neurosis divides itself into prophylactic and curative. The prophylactic treatment is, considering the frequency and gravity of the disease, of the utmost civic as well as individual importance. But the removal of certain injurious influences involves so many social and material considerations that an ideal adjustment of these things cannot be hoped for in our present social and cultural state. Abstinence can properly be recommended only to one who by nature has no great sexual needs, and chastity before marriage cannot be required of all men because a large number of those who heeded such advice would undoubtedly develop apprehension neurosis. The young man or woman must be warned against the evil practice of onanism, but this must be done truthfully, not by portraying imaginary horrible consequences. The young gentleman engaged to a respectable young lady who must not conceive of sin should be taught the dangers of frustrated excitement and should be advised rather to associate with a puella publica. The respectable young lady should be warned that whispered conversations in the corner of a darkened room are fraught with dangers to health as well as to morals. Couples practising coitus interruptus, etc., should be taught less health-racking methods of preventing conception. Children should be taught about sexual matters from the day of their birth, and the sum of their knowledge should be added to gradually as they grow older. This would guard the young girl from the dangers of the shock of sudden enlightenment at the hands of a coarse, inconsiderate and sensual friend. Young children should not be permitted to sleep in their parents' bed-room or where they might overhear conjugal embraces. The guardians and associates of little children should be selected with great care. Boys and girls should be taught to sublimate their sexual energies to useful and noble purposes. Fond and foolish mothers must be warned of the great dangers of frenzied caressing of the baby, of excessive rocking, of too much swinging, of tickling it, of kissing its gluteal region, etc., and other similarly absurd and exciting manifestations of love.

The curative treatment divides itself into (a) symptomatic, (b) corrective, and (c) psychanalytic.

1. In all but the very mildest cases the individual symptoms must be relieved to the best of our ability according to general principles which need not be detailed here. The administration of bromides, opiates, validol, tonics, laxatives, etc., cannot be dispensed with. Rest, recreation, hydrotherapy, etc., all have their indications. Suggestion and hypnotism for the relief of symptoms should be resorted to only very rarely, if at all.

2. A very important measure in the treatment of apprehension neurosis is the removal of the injurious form of sexual intercourse *and* the resumption of normal coitus. One without the other will not do. The compliance with these require-

ments will at once cure a large number of very sick persons. The onanist must cease masturbating and, if his sexual appetite demands it, resort to a puella publica with proper instructions. The victim of frustrated excitement must either marry or do the same as the abstinent eccentric. The practice of coitus interruptus, etc., must be prohibited. At this point the physician will inevitably be confronted with the question, "What shall we do to prevent conception?" This question must be answered. The reasons for permitting each married couple to determine for itself how many children they shall bring into the world are too numerous and too obvious to be detailed here. Why it should be left to chance to determine this important matter is unworthy of consideration. But unfortunately the conventions of our hypocritical morals and culture do not permit the sale of preventive appliances. Truth to tell, we have at present no reliable preventive against conception. But the physician who has the health of his patients at heart will, in suitable cases, teach them the necessary precautions.

The husband afflicted with premature emission, to the great disgust and injury of his wife, must be given the advice given by Dr. Van Swieten to his royal patient:—"Ceterum censeo, vulvam illam illustrissimam ejus majestatis ante coitum esse titillandam." Well-advised instruction will rarely fail to convert an unhappy, quarrelsome home into a peaceful and happy one, and change a thin, pale, sleepless, irritable and morose wife into a healthy, beautiful and contented mate.

3. In almost every case of apprehension neurosis it will be necessary, *besides correcting the sexual errors,* to *go through a psychanalysis* to discover the repressed etiologic complex ("psychic conflict"), i. e., to make the patient's unconscious conflict conscious, to show him the raison d'être of his symptoms. This will have to be done in most cases before the sexual errors can be corrected. The patient must be made to know himself, to look his enemy straight in the face. This done, the battle is half won. But when the conflicting passions have been unearthed the physician must be very cautious as to advising his patient how to get out of a dangerous situation. But in suitable cases the conscientious physician, if he be gifted with the divine quality of reading the human heart, will exercise his functions as a man and a humanitarian.

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FREUD'S THEORY OF COMPULSION NEUROSIS.[1]

BY

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During the spring of 1909, the patient R., 23 years old, born in New York City, of Hebrew parentage, married, driver by occupation, applied for treatment in the neurological department of the Vanderbilt clinic. He was examined by Dr. C. Beling, who after discussing the case with me, made the diagnosis "compulsion neurosis, probably paranoid," and referred the patient to the department of psychiatry to be treated by me.

[1]Read before the Eastern Medical Society, New York City, Nov. 10, 1911.

R. was in excellent physical condition. There was nothing to attract one's attention to him anthropologically; his features were well formed and symmetrical, mentally he was alert and intelligent, answering questions readily and relevantly, and his judgment and reasoning corresponded to his type—a bright, thoroughly Americanized young man of Russian-Jewish parentage.

According to the patient there was nothing to note about his family history; he was the only child, and as far as he could judge there were no mental or nervous diseases in the family. His own life was not marked by any special events, he attended the public school up to the age of 14 and was a good student, following which he worked, and then peddled first with his father and then alone in the neighboring farming districts. His present position he obtained two years ago. I will add here that upon entering somewhat deeper into patient's symptom-complex I soon became convinced that I dealt with a case of compulsion neurosis, and that there was nothing paranoid in the case.

By compulsion neurosis in the Freudian sense we understand those cases which present obsessions, doubts, and phobias, and which are commonly called psychasthenias.

The patient sought treatment because for about four years he had been annoyed by the thought that all the Jews would be killed by the Christians. To use his own words: "I have the idea that all Jews will be killed by Christians; I know the idea is foolish but I cannot shake it off; it is always with me, and at times it is so strong that I almost believe it. I think that I will be killed because all Jews will be killed. I argue with myself about the impossibility of this idea, but I always come to the conclusion that although it is absurd it might happen and this naturally depresses me. I begin to worry and feel sorry for my poor father, and I often cry over it."

What the patient himself thought strange was the fact that he had absolutely no reason for such thoughts, he never had any trouble with any Christian, on the contrary he could number many Christians among his friends; he had been employed at that time by a Christian firm and was highly regarded, and the one person with whom he had some differences was the only other Jew who was employed by the same firm. To my question he answered that on a few occasions he thought of committing suicide; it came to him as a sort of command, "You must die," but he argued that it would be useless to do it, as the Christians would then cut up his body. He stated that the idea came on suddenly one day about four years ago. It at first surprised and seemed strange to him but he soon found that he could not rid himself of it, he had to think of it or of something referring to it. When asked to explain he said that he was spinning all sorts of fancies around it; he elaborated upon all sorts of abstruse questions in reference to it, e. g., what kind of a world would it be after all the Jews were killed; what would Mrs. X. do; suppose Mr. Z. escapes, etc. As a result of all this he was very depressed, had no ambition, and could take no interest in anything.

Besides these obsessions he complained of headaches and a peculiar "dull feeling" which came on from time to time and during which he could not think. He also stated that he was very often suspicious, he feared that some one would make remarks to him. This only occurred to him when he visited a public urinal.

We see then that the main feature of the case is the obsessive thinking, the only detail that would lead one to think of paranoia is the suspicion in public urinals.

As soon as the diagnosis was made I began to treat the patient by Freud's psychanalytic method. As the time does not permit me to give here a detailed description of psychanalysis in general I must refer you to the numerous writings on the subject;[1] I shall here confine myself to the mechanisms of compulsive neurosis, and with this end in view we shall hear what Freud has to say on the subject.

In his observation on the defense-neuropsychoses,[2] Freud describes the essence and mechanism of compulsion neurosis as follows: "Sexual experiences of early childhood play the same part in the etiology of the compulsion neurosis as in hysteria, but whereas the latter is characterized by passivity, the former is noted for its aggression or sexual activity. The essence of the compulsion neurosis may be expressed in the following formula: obsessions are always transformed *reproaches* returning from repression which always refer to a pleasurably accomplished sexual action of childhood. The typical course of compulsion neurosis is as follows: The first period or the period of childish immorality contains the germs for the later neurosis. There is at first a sexual seduction which later makes the repression possible; this is followed by the actions of sexual aggressions against the other sex which later manifest themselves as actions of reproach. This period is brought to an end by the appearance of the —often self ripened—sexual maturity. A reproach then attaches itself to the memory of that pleasurable action, and the connection with the initial experience of passivity makes it possible—only after conscious and recollected effort—to repress it and replace it by the primary symptom of defence. The third period, that of apparent healthiness but really of successful defence, begins with the symptoms of scrupulousness, shame and diffidence. The next period of the disease is characterized by the return of the repressed reminiscences, i. e., by a failure of the defence. But the revived reminiscence and the reproaches formed from them never enter into consciousness unchanged, what becomes conscious as an obsession and obsessive affect and substitutes the pathogenic memory in the conscious life are compromise formations between the repressed and repressing ideas. In the further course of the disease, depending on whether the memory content of the reproachful action alone forces an entrance into consciousness or whether it takes with it the accompanying reproaching affect, we may have two forms of the neurosis. The first represents the typical obsession, the content of which attracts the patient's attention, only an indefinite displeasure is perceived as an affect, whereas for the content of the obsession the only suitable affect would be one of reproach. The second form of compulsion neurosis results if the repressed reproach and not the repressed content of memory forces a replacement in the conscious psychic life. The affect of the reproach can change itself into any other affect of displeasure, and if this occurs there is nothing to hinder the substituting affect from becoming conscious. Thus the reproach (of having performed in childhood some sexual actions)

[1] Cf. especially my papers: Freud's Conception of the Psychoneuroses, *Medical Record*, Dec. 1909; and Dreams and their Relation to the Neuroses, *N. Y. Medical Journal*, April, 1910.

[2] Selected Papers on Hysteria and Other Psychoneuroses, p. 155, translated by A. A. Brill, *Jour. Nerv. and Men. Disease Pub. Co.*

may be easily transformed into shame (lest someone becomes aware of it), into social fear (fearing punishment from others), into delusions of observation (fear of betraying those actions to others), into fear of temptation (justified distrust in one's own moral ability of resistance), etc. Moreover the memory content of the reproachful action may also be represented in consciousness, or it may be altogether concealed, which makes the diagnosis very difficult. Many cases of the so-called "periodic neurasthenia" or "periodic melancholia" may be explained by compulsive affects.

Besides these compromise symptoms which signify a return of the repression and hence a failure of the originally achieved defence, the compulsion neurosis forms a series of other symptoms of a totally different origin. The ego really tries to defend itself against those descendents of the initial repressed reminiscences, and in this conflict of defence it produces symptoms which may be designated as "secondary defence." These are altogether protective measures which have performed good service in the struggle carried on against the obsession and the obsessing affects. If these helps in the conflict of the defence really succeed in repressing anew the symptoms of return obtruding themselves on the ego, the compulsion then transmits itself on the protective measures themselves and produces a third form of the compulsion neurosis, the compulsive action. These are never primary, they never contain anything else but a defence, never an aggression. Despite their peculiarity they can always be fully explained by reduction to the compulsive reminiscences which they oppose.

The secondary defence of the obsessions can be brought about by a forcible deviation to other thoughts of possibly contrary content; hence in a case of success there is compulsive reasoning concerning abstract and transcendental subjects, because the repressed ideas always occupy themselves with the sensuous, or the patient tries to become master of every compulsive idea through logical labor, and by appealing to his conscious memory; this leads to compulsive thinking and examination and to doubting mania. The priority of the perception before the memory in these examinations at first induce and then force the patient to collect and preserve all objects with which he comes in contact. The secondary defence against the compulsive affects results in a greater number of defensive measures which are capable of being transformed into compulsive action. These can be grouped according to their tendency. We may have measures of penitence (irksome ceremonial and observation of numbers), of prevention (diverse phobias, superstitions, pedantry, aggravation of the primary symptom of scrupulousness), measures of fear of betrayal (collecting papers and shyness), and measures of becoming unconscious (dipsomania). Among these compulsive acts and impulses the phobias play the greatest part as limitations of the patient's existence.

Let us now return to our patient and see in how far he agrees with the description just read. Bearing in mind Freud's dictum, no neurosis is possible in a normal vita sexualis, I naturally made a thorough examination of the patient's psychosexual development. As usual in such examinations his answers were monosyllabic and evasive and all that I could elicit was that he was perfectly well sexually till the age of 15-16 when he began to masturbate. He began to consort with women at 18 but indulged rarely. He

admitted that his marriage was not a happy one, but stated that his sexual life was normal. Previous to marriage he went through many conflicts, he was afraid that masturbation would drive him crazy and therefore stopped it, but he then began to suffer from frequent pollutions which worried him a good deal. He entertained the usual hypochondriacal ideas of the masturbator. He seemed to be unwilling to tell me anything else and I did not urge him, I was sure that there was abundant material and that he would tell it to me sooner or later.

Before proceeding with our examination it will not be amiss to say a few words about Freud's idea of sexuality. In the first place it must be remembered that Freud uses the word in the broadest sense; it not only embraces the coarse sexual, but also everything touching on and appertaining to it in the psychic and physical spheres. Furthermore Freud shows that there is an infantile sexuality, that its germs are born with us and do not fly into us at a certain age as some suppose. He also tells us that the sexual impulse in man consists of many components and partial impulses. Many essential contributions to the sexual excitement are furnished by the peripheral excitement of certain parts of the body, such as the genitals, mouth, anus and bladder outlets, which are the so-called erogenous zones. All these zones are active in infancy, and only some of them go to make up the sexual life. The first libidinous manifestations are of an autoerotic character. The child at first knows no other sexual object except itself, it is only in the later stages of development that it goes over to the love-object. Besides the erogenous zones the child shows those components which are designated as partial impulses. Among these we have the impulse for looking and showing and for cruelty which manifest themselves somewhat independently of the erogenous zones and which later enter into intimate relationship with the sexual life; but along with the erogenous sexual activity they are noticeable even in the infantile years as separate and independent strivings; in later life they are repressed and subjected to the primacy of the genitals which serve the functions of procreation. The energies emanating from them are then deflected from the sexual and directed to important social aims. This is the so-called process of sublimation. Thus sublimation of the homosexual component gives origin to loathing and morality, the sublimation of the infantile looking and exhibitionism gives rise to shame, and the sublimation of the sadistic and masochistic components to disgust, pity, and similar feelings. These reactions formed during the sexual latency period—from the fourth year to the beginning of puberty, eleven—make up the character of the person, and later give us a good indication of his early sexual life.[1]

As people are usually unwilling to talk directly about their intimate life I usually examine these reactions and thus trace them backwards.

When I asked the patient if he was unusually bashful he answered to my surprise that bashfulness or shame was responsible for his obsession. He stated that he had been abnormally bashful and shy since he was twelve. This was especially noticeable when he was in the presence of women. A few years before he became acquainted with a young lady who invited him to call. He was very anxious to do so, but was too shy and bashful to accept her invitation. The

[1]Freud: Three Contributions to the Sexual Theory, translated by A. A. Brill, *Journal of Nervous and Mental Dis. Pub. Co.*

following morning while half awake he noticed that he was not bashful. This gave him the idea that if he could remain in a half waking state he would not be bashful. He remained in this state for two days, when he suddenly began to think of Jews and Christians and later of the obsession. This half waking state was simply a secondary defence against a painful idea. The neuroses make prolific use of such mechanisms, thus many dipsomanias are nothing but flights from consciousness or measures of becoming unconscious. I had occasion to analyze two female patients who were subject to screaming spells; they had to scream apparently without any provocation. Analysis showed that the screaming was merely a flight from a painful thought. With their screaming they drowned their inner painful and disagreeable voices. Many hysterical fainting spells show the same mechanism. Our patient merged into a semi-stuporous state not only to escape from the abnormal bashfulness but from those thoughts which caused this reaction.

This revelation threw new light on the subject. From the nature of the obsession and patient's extreme devotion to his parents, especially the father, I at once surmised that there was probably a strong repressed sadistic component and the pronounced abnormal bashfulness could only be looked upon as a transformed reproach of sexual acts of childhood. On going more deeply into the infantile sexuality I discovered the following facts. R. was an only child and therefore received more than the usual amount of l ve from his parents. He was idolized by both parents, especially by his mother with whom he slept almost constantly until the age of four. This was favored by the fact that his father's business necessitated his remaining away from home for long periods. At that age something happened which changed his mother's attitude towards him. The patient attempted something of a sexual nature with a little girl with whom he played on the roof, and was severely punished for it by the girl's and his own mother. The latter became very severe with him. She allowed him to sleep with her but kept him at a distance. He felt this very keenly, cried in silence but said nothing. The mother instinctively reproached herself for the son's sexual prematurity. By giving him too much affection she awakened and kept alive his infantile sexuality which then incited him to attempt with the little girl what his own mother innocently permitted. The estrangement from his mother strengthened his attachment for his father, and as the latter was rarely at home and made a great fuss over him whenever he returned, that feeling continued for some time. The boy was very happy when his father returned and cried bitterly when he left home. It would seem that the latency period did not progress in the normal manner, for the patient recalled many instances of sexual aggression and a homosexual experience with two adults. At the age of six to seven he was self-willed, wild, very revengeful, and evinced a special cruelty to animals; he was happy when he could kill a bird or kick a cat, and one of his favorite pastimes was to wring the necks of chickens or to stuff up their nasal openings with wax, and hold their beaks until they suffocated.

We now come to the age of puberty. The patient recalled that at the age of nine to ten he was very inquisitive sexually, and would look under girls' dresses whenever he could. At twelve, a man attempted to have sexual relations with him but he refused. Soon thereafter he became shy and

abnormally bashful. From twelve to fifteen there were no sexual experiences to note; it may be called a deferred latency period. At fifteen he played with little girls, and about the same time began to masturbate. At about sixteen while peddling in the farming districts he began to exhibit in the presence of women. He claimed that this action gave him a "strange pleasant feeling." At the age of seventeen he began to practice active pederasty with a boy of thirteen, which continued for a year once every three weeks. At eighteen he began to consort with women, but after a few experiences he led a continent life until he married at twenty-two. Since the birth of his child he practiced coitus interruptus. His married life did not seem to influence his neurosis. He stated that he was especially annoyed by his obsession during the marriage ceremony, and that although the obsession was not so strong during the first year of his married life it soon resumed its former compulsiveness and constancy.

The facts that I have thus far obtained did not come out as smoothly as you might imagine; it was a constant struggle with enormous unconscious and conscious resistances, the overcoming of which required much effort and patience, and I might add skill. But the patient soon became interested in the work, and as the resistances were broken he spoke freely about his abnormal sexual life.

As you know, in psychanalysis we make use of dream interpretation, for the dream is the via regia to the unconscious, and at each session the patient brought me a few of his dreams. It was through these dreams that I have discovered most of the details enumerated above. To show you how the dream gives us information, I will cite a dream which he brought about four months after the beginning of the analysis. It reads as follows: "I passed a store and saw a mad dog, a cat and a goat. A crowd was watching them. I said to somebody, 'It is a wonder that they let that mad dog bite the horse'—just then a policeman began to shoot at the mad dog. He fired six shots but missed it. The policeman then got in the window and was going to take the mad dog to the lock-up, and it looked something like a horse, and then it was a man." While still half asleep he said to himself, "I must write that down for the doctor."

To one who knows the language of the unconscious this dream tells many things. The appendix to the dream, "I must write that down for the doctor," very often occurs in dreams in the course of psychanalysis, and regularly corresponds to a great resistance to the confession involved in the dream, and is frequently followed by forgetting of the dream; it also means that the dreamer decided not to tell anything about it to the doctor. This was also confirmed by the crowd in the dream which signifies a secret. As a dreamer himself is always the principal actor in the dream I concluded that he must be concealed under the mad dog. This, too, is confirmed by the fact that the mad dog then becomes transformed into a man. But as the dog was also a horse there must be some community between the horse and the dog and the man. The nature of the dream shows that it is of a sexual nature. When I asked him to tell me what the policeman brought to his mind, he finally recalled a rather disagreeable reminiscence. At the age of fifteen he was in the habit of taking little girls on his lap and on the pretence of playing with them he masturbated. On one of these occasions in the Bronx Park he was observed by a policeman who ran after

him and threatened to shoot him. Animals in dreams are usually sexual symbols,[1] and as he could give no associations I was convinced that there must have been something between him and the animals of a sexual nature. These are no arbitrary deductions but they are based on psychological facts, which all who are interested can find in Freud's "Interpretation of Dreams."[2] I did not hesitate to tell him my conclusions, and after enormous resistance and great emotivity, he admitted that he was guilty of bestiality with the horse, dog, and sheep. This occurred while he was peddling in the farming districts at the age of seventeen to eighteen. It was not a case of erotic zoophilia, as he has not resorted to such practices since; it was simply a case of *faut de mieux* in a sexually hyperesthetic and very bashful boy.

In his Three Contributions to the Sexual Theory, Freud states that the constitutional sexual predisposition of the child is more irregularly multifarious than one would expect, that it deserves to be called "polymorphous perverse" and that from this predisposition the so-called normal behavior of the sexual functions result through the repression of certain partial impulses and components of the infantile predisposition, and through the subordination of the rest under the primacy of the genital zones for the service of the function of procreation. The perversions correspond to a disturbance of this connection due to a superior compulsive-like development of some of the partial impulses, while the neurosis could be traced to a marked repression of the libidinous strivings. Without going into any detailed comparisons, which I regret to say I am unable to do for lack of time, I will simply say that a study of our patient's psychosexual life agrees in every particular with what I have just quoted from Freud. Let us now see how this corresponds with the patient's compulsive idea.

When I first heard the principal obsession, viz.: that all the Jews will be killed by the Christians, I was perforce reminded of such personages as Catherine de Medici and Gil de Rais; I was struck by the idea of such unheard of wholesale slaughter, and remembering that the symptom represents the whole or a partial sexual manifestation of the patient from the sources of the normal or perverse partial impulses of sexuality, I naturally thought that there must be a marked sadistic component in the patient's psychosexuality. As I have shown above, my assumption was fully confirmed. Further investigations of the causes of the obsession in mature life brought out the fact that it appeared suddenly at about the age of twenty while he was seriously thinking of marrying, and just after getting over an unhappy love affair. This amour was with the daughter of a farmer whose acquaintance he made while travelling in that district. He was very fond of the girl and would have married her but for his father who would not hear of his marrying a Christian. His father played a peculiar part in R.'s life. There was a constant struggle of the two contrary feelings of love and hatred. Paradoxical as it may seem, he hated him as intensely as he loved him. The continued existence of such contrasts is possible only under special psychic determination and with the help of the unconscious state. We know that the contrasting feelings of love and hatred can be readily entertained in reference to indifferent persons. Thus, a clerk may think that his superior is an excellent executive man but an unscru-

[1] Cf. my paper on Anxiety Neuroses, *Jour. of Abnorm. Psychol.*, June-July, 1910.

[2] Translated by A. A. Brill.

pulous lawyer. But when it concerns someone nearer to us, let us say a wife, or parent, we strive for a single feeling and we therefore overlook the faults which may provoke displeasure. But the love does not extinguish the hatred but only represses it into the unconscious where it is kept from destruction, and may even grow in intensity.[1] The determination of this peculiar constellation of love lies in the separation of these contrasting feelings and a repression of one —usually the hatred—at a very early age. As a preliminary explanation of the compulsion neurosis, Freud states that the sadistic component of love was especially strongly developed constitutionally in those cases of unconscious hatred and for that reason they were subjected to a premature and thorough suppression. The phenomena of the neurosis then take their origin on the one hand from the conscious attachment which comes to the surface through reaction, and on the other hand from the unconscious sadism in operation. If we review the patient's relation to his father we find that at an early age he was, as it were, his rival. Whenever the father was home he had to renounce many pleasures, such as sleeping with his mother. Later on when his mother changed her attitude towards him he became very attached to his father, but he often had occasion to hate him because he often punished him. As he grew older these feelings were intensified by the fact that his father was an orthodox Jew and he wanted to be an American. He was ashamed to be seen with his father because the street urchins made derogatory remarks about him; they called him Jew and Sheeny; he himself often applied the same epithets to him, which was naturally followed by a reproach and an outburst of affection. When his father opposed his marriage with the Christian, the old rivalry was revived. His father again stood in his way of attaining his sexual object. Just as he kept him away from his mother during childhood so he now prevented him from marrying. His feeling for the girl was also characterized by the contrasts of love and hatred, but whereas this was largely a conscious perception, his former intense conscious hostility towards his father escaped him long ago, and could only be brought to consciousness in the face of the most violent resistance. This was especially favored by his long abstinence and recent love which thus helped to enhance his libido and to take up again the old struggle against the authority of his father. We may say that the repression of the infantile hatred towards his father gave rise to all further happenings of the neurosis. While he was wavering between his father and his beloved, and escaped from conscious reflection by merging into a semi-stuporous state, he was one day attracted by the big red head lines of a newspaper about the massacre of Jews in Russia. As his father was a Russian Jew a thought something like the following suddenly flashed through his mind: "If my father were only there!" which may be completed: "he would be killed and I could marry a Christian"; but this conscious perception was naturally at once suppressed. A few days later he began to compare notes about Jews and Christians which finally developed into the obsession, "All Jews will be killed by Christians." In other words the whole process followed the well known mechanism of projection, i. e., an inner perception is suppressed and as a substitute its content comes to consciousness as a perception from without after it has undergone some distor-

[1]Jahrb. f. Psychoanal. u. Psychopathol. Forschung., Vol. 1, Bleuler-Freud, p. 375.

tion. The distortions are effected in the same way as in dreams, i. e., by substitution, displacement, inversion, ellipses, etc.[1] Here it was not a real distortion but rather a generalization which is a common mechanism of obsessions.[2]

After this analysis the obsession from which the patient suffered for about four years and which caused him untold misery soon disappeared. The treatment lasted about four months, during which I saw the patient at first three times a week, then twice and once a week. We usually spent an hour at each session. The patient was by no means cured, there was still much to be done. Thus his homosexual component had to be dealt with.[3] After eight months' treatment I discharged him as cured. Since then he has become more ambitious, he gave up his position as driver, and is now the owner of a well paying business.

97 Central Park West.

RHEUMATIC TONSILLITIS.

Tonsillitis in children and young adults is frequently a sign of rheumatism. Hence complete rest should be prescribed and a careful watch should be kept on the heart. —*Hospital.*

TOO MANY NON-SURGEONS.

Today there are too many non-surgeons doing surgery, says Parker Syms. If men who are unable to obtain good results by the non-operative treatment of fractures undertake to treat them by operative methods, the results will be disastrous and surgery will be exposed to serious disgrace.

[1]Freud: The Interpretation of Dreams; see also Brill: Freud's Conception of the Psychoneuroses, *Med. Record*, Dec., 1909, and Dreams and Their Relation to the Neuroses, *N. Y. Med. Jour.*, April, 1910.

[2]Jahrbuch 1. c. p. 419.

[3]Analysis showed that his suspicion in public urinals was due to a repressed wish to exhibit in order to attract those near him.

"ON FREUD'S THEORY OF DREAMS."[1]

BY

H. W. FRINK, M. D.,

Assistant Neurologist to Cornell Dispensary and in charge of the Psychotherapeutic Clinic.

In sketching for you Freud's conception of the compulsion neurosis, Dr. Brill has indicated that the essence of psychanalysis lies in uncovering the mental undercurrents which are the driving power of the symptoms, and bringing these undercurrents fully into the patient's consciousness and under the sway of his will. Now, the most important and serviceable technical device for disclosing these unconscious trends is that of dream analysis. To quote Freud himself: "Interpretation of dreams is in fact the *via regia* to the understanding of the unconscious, the surest ground of psychanalysis, and a field in which every worker must win his convictions and gain his education." Without familiarizing himself with dream analysis no one can hope to interpret the unconscious mental processes upon which psychogenetic symptoms depend, or to be successful in the psychanalytic treatment of his patients.

Having thus called your attention to the importance of the subject which, by the way, I feel can hardly be overestimated, I shall proceed with a brief outline of Freud's conception of the psychology of dreams and his method of interpretation. In so doing I shall endeavor to present these views by means of examples and to avoid abstract considerations as far as I can.

The night dream has, in the day dream, an analogue in waking life. Both represent the imaginary fulfillment of a wish. In

[1]Read by invitation before the Eastern Medical Society, New York, Nov. 10, 1911.

both we picture ourselves doing those things we wish to do, possessing things we crave, or avoiding that which we dislike. But while the day dream, in imagination, simply and directly supplies to us the things wished for, the night dream does this in a round-about way, and conceals its wishfulfillment in all sorts of disguises so that our dreams often appear to be the exact opposite of wishfulfillment. In the night dream, therefore, we have two parts that must be carefully distinguished. First, there is the confused mass of pictures that we remember on awaking and which we ordinarily call "the dream." This is what Freud terms the manifest content of the dream, and is merely a disguised representative for those thoughts that fulfill the wish. The thoughts corresponding to a direct and undisguised fulfillment of the wish, the true meaning of the dream, are called its latent content. They remain unconscious and are only obtained by dream analysis. The manifest content is merely a surrogate which represents them in consciousness and bears the same relation to them as does an allegory or rebus to the ideas it at the same time expresses and conceals.

The reason for indirect representation and elaborate disguise of the thoughts of the latent content becomes plain when we consider the source and nature of dreams. Dr. Brill has discussed repression and has told you how, by its activity, various objectional desires are exiled from consciousness and confined to the unconscious. It is such wishes and desires—incompatible with consciousness, put out of mind, and forgotten—that in night dreams are fulfilled. We have good reason for believing that the wishes fulfilled in night dreams are invariably either ones which are directly repressed, or else those which, though not repressed themselves, yet are closely associated with some similar and repressed wish. Probably a wish which is entirely free of repression is never sufficient to cause a dream (except in young children). It is on account of the necessity of avoiding this repression that the dream thoughts assume a disguise. During the day repression is so strong that, in normal people at least, these unconscious longings cannot reach consciousness or secure gratification. It is only during the partial relaxation of repression that occurs during sleep that the exiled wishes or cravings are permitted to enter consciousness and satisfy themselves in fancy. But as this relaxation of repression never amounts to a complete suspension, there is always a certain censorship exerted over the thoughts coming from the unconscious and only those are admitted which are so disguised and distorted as to appear unobjectionable. The manifest content of a dream represents, then, the objectionable ideas of the latent content expressed in such a way as to appear innocent enough to pass the censor. The means of expression employed by dreams are similar to those by which unpleasant ideas are made tolerable in conversation or literature, i. e., symbolism, innuendo, sly hints, plays upon words, veiled suggestion, round-about insinuation, etc.

The dream then, like the neurosis, is a sort of compromise between two conflicting psychic streams or forces, the one unconscious and repressed, the other conscious and repressing. In both dream and neurosis the creating force is an unconscious desire. In both the desire is gratified in consciousness, but, in each case, the inhibition of the repressing stream limits the unconscious force to forms of gratification so indirect, so subtle, and so veiled that the in-

dividual does not become aware of what is really going on. Dream analysis is of value to us on account of the fact that, in a given patient, both dreams and symptoms may arise from the same repressed cravings. By analyzing the dreams we get the key to the symptoms.

The method of analyzing dreams is practically the same as that by which we analyze symptoms directly. We divide the dream into its different elements and, taking them up separately, require the dreamer to relate in order all the various thoughts brought to his mind by each. These incoming thoughts as a rule do not lead with absolute directness to the unconscious ideas we are seeking, but rather give expression to them in the form of an allusion, a play upon words, or something of the kind. In some instances, however, the latent thoughts of the dream come into consciousness directly. The psychic material collected by this method (free association) is then studied, and, by bearing in mind certain dream forming processes that will be described later, the true meaning or latent content of the dream can usually be deduced.

I will now relate a dream with its analysis and after this take up some of the special processes in dream formation.

A young woman, a patient of mine at Cornell Dispensary, told me a dream as follows: *"I dreamed last night that I walked up Fifth Avenue with a girl friend. We stopped at a millinery store and looked at some hats in the window. I think that finally I went in and bought one."* The analysis is as follows: When the patient was asked what was suggested to her by a walk with the girl of her dream, she immediately thought of an occurrence of the preceding day. On this day she had really walked up the same Avenue, with the same girl, and looked at hats in the same store window that she saw in the dream. In real life she bought no hat, however. When asked what more came to her mind about this episode, the following occurred to her: On the day of the dream her husband was in bed with some slight illness and, though she knew it was nothing serious, she had been terribly worried and could not rid herself of the fear that he might die. On this account, when the friend of the dream happened in, the husband suggested that a walk with this girl might help her to forget her worries. After telling me this, it also occurred to the patient that, during the walk, some mention had been made of a man she knew before her marriage. When urged to relate everything that came to mind about this man, she hesitated but finally said she believed that at one time she had been in love with him. When asked why, then, she didn't marry him, the patient laughed and replied that she had never had a chance, and then explained that the man was so well off and so far above her socially that she had always considered him out of her reach. After this, in spite of my urging, she could not be induced to pursue the subject further, and persisted in saying that it had been merely a silly, girlish affair which amounted to absolutely nothing. I then asked her to think of buying a hat and tell me everything this idea suggested to her. She then told me that she had very much liked the hats she had seen in the store window and she wished that she could buy one of them, though she knew this was out of the question as her husband was a poor man. Evidently this wish is fulfilled in the dream, however, for in it she does buy a hat. But this is not all. —When asked what kind of a hat she bought in the dream she suddenly remem-

bered that it was a black hat—a *mourning* hat, in fact! This little detail, hitherto concealed, when considered with the associations previously brought out, immediately gives the key to the interpretation of the dream. On the day of the dream the patient had been fearful that her husband might die.—She dreams that she buys mourning, thereby implying the thought that his death has occurred. In real life she had been prevented from buying a hat by the fact that her husband was poor. In the dream she is able to buy one, and this certainly suggests a husband who is not poor. To answer the question of who this rich husband might be, we need only to turn to the associations from the first part of the dream, i. e., the man of whom she refused to talk and with whom she might have been in love. He, as she said, is well off and as his wife she could buy hats as she wanted them. We therefore conclude that this patient is dissatisfied with her husband, that she unconsciously wishes to be free from him even at the cost of his life, and that she longs to marry another man who is better able to supply her wants.

Now, those of you who are unfamiliar with psychanalytic work may consider that the analysis of this dream is altogether too flimsy evidence upon which to base conclusions such as I have drawn, and especially so since the young woman displayed the utmost anxiety about her husband's health, and gave earnest assurances that her former love affair was of no consequence. We who practice psychanalysis feel differently, however, for, from repeated experiences, we learn that while patients continually lie about sexual matters, dreams never do and, therefore, it is upon the dreams more than upon the words of our patients that we rely for the truth. In this case, when the patient was informed of the meaning of her dream, she not only admitted the truth of my conclusions but, as her resistance was then broken, gave a number of other facts in corroboration. The most important of these was that, after her marriage, she learned that the man whom she had considered above her was by no means as indifferent to her as she had supposed. This, as she acknowledged, tended to awake her old love and make her regret her hasty marriage for she felt that if she had waited a little longer she might have fared better.

The discovery of the undercurrent of dissatisfaction shown by the dream had much to do with relieving this patient of a morbid fear of being alone, one of the symptoms from which she suffered. Her over anxiety as to the health of her husband is easily recognized as a compensation for the repressed wish that he might die.

Now let us consider some of the processes at work in the formation of dreams. In the example given, the manifest content is the dream story as related by the patient. This, as you have seen, gives expression in consciousness to certain unconscious ideas, the latent dream content, which may be stated about as follows: "I am tired of poverty—I do not care for my husband—He dies and frees me—I marry the man I prefer and so am no longer poor." In this dream, as is generally the case, the material forming the manifest content—the surrogate for the unconscious dream thoughts—is taken from the thoughts of the day before. However, in some dreams older material, often from early childhood, is employed. As in this dream, the dream material usually appears to concern matters which seem very trivial.

The conversion of the latent dream thoughts into the manifest content is called

the dream-work (Traumarbeit) and is accomplished by the cooperation of four different processes or "mechanisms." The first of these is called *Condensation* (Verdichtung). This mechanism accomplishes just what its name implies. It forms a conscious surrogate by abbreviating, symbolizing, fusing, and condensing the unconscious ideas of the latent dream content. The manifest content of the dream is therefore laconic. It is always much less in extent than the latent content. Hence, it follows that quite generally one element in the manifest dream represents several in the latent. Such an element is then said to be "overdetermined." This overdetermination is well shown in the example given: The purchase of a mourning hat expresses both escape from poverty, the death of a husband, and a new and better marriage. Condensation may also cause a fusion of the memories of different scenes or objects in new scenes or objects, different persons into one composite person, or different words and sentences to form seemingly senseless phrases or neologisms. Thus one of my patients dreamed that he received a letter signed "Helva." This word, upon analysis, resolved itself into the two words "Helen" and "Elva," names which belonged to two young women with whom he was anxious to correspond.

The following is a good example of dream condensation involving persons. A periodic drinker dreamed that he visited a young woman who seemed to be an Indian dancer. She was dressed in a peculiar red garment that left her abdomen exposed. The analysis of this dream, which exposes several repressed complexes, is quite lengthy so I will give only enough of it to show the condensation and the reason therefor. The face of the dancer was that of an English woman—in fact, the patient's own wife. She had been born in India. A few years after their marriage she began to behave very badly, "led her husband a dance," and finally left him. The red dress of the dancer recalled a wrapper worn by the patient's wife at the time of her pregnancy, and this further reminded him that he had felt much interest in watching the growth of her abdomen at that time. Seeing the abdomen of the dancer in the dream recalled a time, when in company with some inquiring friends, the patient had seen the stomach dance performed by a Hindoo girl at the World's Fair. He also remembered that, while in one of his alcoholic attacks, shortly before the dream, he had been taken by a night hawk cabman to a house of prostitution and there he had seen a woman, dressed in a wrapper, whose general appearance was quite that of the woman in the dream. The dancer is, then, a composite formed by condensing the images of three different persons, namely: the patient's wife, a Hindoo dancer, and a prostitute. The reason for the condensation is as follows: As a result of certain experiences of childhood, the patient's sexual libido had been fixed so strongly upon a certain type of woman, to which his wife corresponded, that all women who deviated from this type presented no sexual appeal to him. On account of this, when, after his wife deserted him, he attempted to satisfy his sexual needs in houses of prostitution, he found himself psychically impotent with the women he met there. The dream gives him a fancied solution of the difficulty, for in it he imagines that he visits a woman who possesses those qualities that appeal to him, combined with the accessibility of the prostitute. The connection between the Hindoo dancer and the patient's wife (who was also from India

and "who led him a dance") is quite obvious. In the dream one is merely a substitute concealing the other.

The second dream mechanism operating to form the manifest content from the latent is called *Displacement.* (Verschiebung). By displacement important ideas in the latent content are made to seem unimportant in the manifest, while some minor thought in the latent content may be represented as the central feature of the manifest part of the dream. This mechanism is well shown in the first dream given. In it, the walk up the avenue is the most prominent portion of the manifest content, though in reality it is the least significant part of the dream. At the same time, the most important part of the dream, the purchase of the hat, was given a minor place and mentioned by the patient almost as an afterthought. Displacement also concerns the affect (the feeling or emotion) which accompanies a dream. Thus when, in a dream, a person feels fear of an object that in itself is harmless, we know that this fear has been displaced from the thought of some really dangerous thing to its seemingly harmless symbol in consciousness. The affect, by the way, is the only thing in a dream that is not subject to distortion. Though it may be displaced, yet it is always in perfect accord with the latent thoughts of the dream no matter how absurd it may seem in the manifest content.

The third dream forming mechanism is called *Dramatization.* It concerns the means by which the latent content of the dream is represented in consciousness. In any dream all the thinking is done in the unconscious. In the manifest content there is no intellectual activity. It consists merely of various pictures selected from the unconscious dream thoughts. These pictures are most often visual ones, though tactile, auditory, or other sensory impressions may appear. These sensory pictures are then rendered objective and are comprehended by the dreamer as something outside himself. In other words this mechanism represents the latent dream content to the dreamer by dramatizing it, and the unconscious dream thoughts are expressed as by a play, a pantomime, or by moving pictures. This is shown, of course, by the two examples I have given. Furthermore, as in a play, events that may extend over a long period of time have to be represented in a few moments.

Certain thoughts such as "if," "when," "either," "because," etc., naturally, cannot be directly represented by dramatization. These ideas cannot be pictured. Such relations between dream thoughts are sometimes expressed by special devices, such as having the thoughts of the subordinate clause represented in an introductory dream, while the ideas of the principal clause follow as the main dream. The thought that one thing is like another is expressed by combining the two. There are still more of these special devices, but I will not attempt to take them up here.

The following dream related by a patient shows how the idea of similarity is expressed: *"I was drinking in a saloon. Then it seemed that in some way I had disgraced myself or was in danger of being arrested. I was served with a paper from the courts and was told that I would have to pay a fine to escape punishment. My mother appeared and I begged her to pay my fine but she refused to do so. In the dream I was terribly worried, but somehow my mother's refusal seemed to relieve me."* The analysis is merely outlined. On the day before the dream the patient had

been drinking in the same saloon about which he dreamed. This was one of a series of escapades in which he had gotten into various scrapes and generally disgraced himself. As a result, his wife threatened to leave him, he was in danger of losing his position, and his chances of being arrested were excellent. All this is expressed by the first part of the dream. The court paper, the threatened punishment, and his mother's refusal to pay his fine, all reminded him of the following episode from his childhood: As a small boy he borrowed a boat belonging to a neighbor. This neighbor, for a joke, pretended to believe the boy had *stolen* the boat, gave him a paper purporting to be a summons to court, and assured him that in order to escape punishment he must pay a fine. The boy, in great distress, rushed home to his mother, told his story, and begged her to pay his fine. She, however, promptly recognizing that the whole matter was a joke, refused to pay the supposed fine and, by taking advantage of her son's fear, succeeded in turning him into a model youngster for a period of about two weeks. At the end of this time he discovered that he had been duped and immediately became as mischievous as ever. The dream, as you see, first pictured to the patient the adult escapades that worried him, and then followed this with the representation of a childhood experience of a somewhat similar character, yet which turned out to be a joke. The thought which the dream attempts to express is this: "Those things I am worrying about now will turn out just as did that little worry in childhood. I can therefore continue my mischief as far as I like." This thought, that the one episode is *like* the other, the dream can, at best, only *imply* by picturing the two as a single episode.

In connection with dramatization, there are two special points that I wish to mention. The first is that the dreamer is always represented in the dream and is usually the chief actor therein. The following is an example. A young lady dreamed that a man was trying to ride a very frisky small brown horse. He made three attempts but each time was thrown off. At the fourth attempt he was successful, however, and began to ride the horse up and down. As you see, apparently the dreamer is not represented in this dream. Yet we know that she must be there, masquerading either as the man or as the horse. This is shown in the analysis as follows. When the patient was asked what *horse* suggested to her, she suddenly recalled that, when she was a little girl, her father told her that her surname, Cheval, was the French word for horse. The patient is small, dark and lively. In similar words she had described the horse of her dream. We suspect, therefore, that this horse represents her. The man of the dream she recognized to be one of her most intimate friends. When she was asked to relate everything that came to her mind about this man she finally confessed that she had been carrying on a very ardent flirtation with him. He attracted her very strongly and on three occasions she had betrayed so much sexual excitement that the man tried to have intercourse with her. Each time her moral feelings came to her rescue, however, and at the last moment she repulsed him. All this is symbolized in the dream by the three efforts of the man to mount the horse. But in sleep the inhibitions that saved her while awake were less active. Her repression was relaxed and she dreamed that she received the sexual gratification for which she really longed. This

is shown by the man's finally mounting the horse and riding it up and down. One of the symptoms presented by the patient was an obsessive fear of falling. As shown by her dream, the basis of the fear was not the danger of a physical fall but of a moral one.

This brings me to the second point which I wish to mention. Those of you who are familiar with dream analysis would know, in a general way, the meaning of the dream just related without having to ask the patient any questions or collect any associations. That is, in some dreams, of which the foregoing is an example, the latent content is expressed by means of symbols which nearly always mean the same and, if we are familiar with this symbolism, we can often read these dreams without depending on the lengthy process of free association. This symbolism is not only to be found in the dreams of all people, no matter what their language or environment, but also it may be detected in folk lore, myths, common proverbs, and ancient ceremonies of all nations. This is explained by the assumption that, deep down in the minds of even the most cultured people, there still goes on the same kind of primitive thinking that, in our prehistoric ancestors, gave rise to the legends and customs that have been handed down to us. The symbolism in the preceding dream—an animal for a person, riding for coitus—is very common, and is no doubt, familiar to many of you. Other common dream symbolisms that might be mentioned are the dream of losing a tooth, which, in women, usually means a fancied fulfillment of a wish to have a baby; the dream of rescuing, which is the fulfillment of a childish wish of the boy to possess his mother, and the dreams of sword, spear, or snake, all of which usually symbolize the male genitals. The practice of interpreting dreams by symbolism can be, and in fact is, carried much too far and, in general, the safest route to the hidden thoughts of a dream lies through the associations furnished by the patient.

There is a fourth dream forming mechanism known as Secondary Elaboration the results of which are not shown in any of the dreams I have given. This mechanism operates after the dreamer awakes. Through its agency the conscious mind of the dreamer tends to form the dream into a story with a certain coherence and logical sequence. The longer the time that elapses after the occurrence of the dream the more the recollection of it is changed by this mechanism. Those parts of the dream in which the disguise is weakest are either subject to further distortion through elaboration or else they may be considered unimportant and so be forgotten. It is to avoid the distorting action of secondary elaboration that we require our patients to write down their dreams as soon as possible after waking.

So much for the processes by which dreams are constructed—let us now consider what purpose or function the dream serves. This is well shown by the following example: An acquaintance of mine once dreamed that he was kicking a skunk, but that animal, instead of emitting the odor so characteristic of it, gave off a strong smell of Palmer's perfume. The analysis is as follows: The idea of Palmer's perfume immediately reminded the dreamer that he had been employed in a drug store at the time the dream occurred. Then there came the recollection of the episode which follows and which, as you will see, gave rise to the dream. A man came into the drug store one day and demanded ten cents' worth of

oil of worm seed. As this drug is not considered as a poison the dreamer immediately supplied it without asking any questions. The purchaser then went home and administered a teaspoonful of the oil to his six months old baby. The first dose the child vomited—a second was given and the child died. The father instead of taking the responsibility of the affair upon his own shoulders, then sought to blame the dreamer for the child's death, and, as the town in which this took place was a small one, in a day or so most of the inhabitants had heard his very untrue account of the occurrence. Naturally the dreamer was very anxious to escape censure from the public and so, whenever a customer entered the store he took occasion to set forth *his* version of the affair. But after a time the proprietor, annoyed by this constant reiteration, said to him: "Now stop talking about this thing—the longer you kick a skunk the worse it stinks." That night the young man had the dream I have related and it is not very difficult to see why it occurred. The employer's command had robbed the clerk of the only means at his disposal for squaring himself with the public and so when he went to bed that night he was very much worried and disturbed. Though he dropped off to sleep these unpleasant emotions persisted sufficiently to interfere with his rest and to tend to wake him up. He therefore dreams that he is still kicking the skunk but without any unpleasant results, or, in other words, he imagines that he continues to defend himself and no ill comes of it. This idea, for the time being, quiets his mind and his sleep is undisturbed.

A similar purpose is served by all dreams—the dream is the preserver of sleep. Its function is to complete the unfinished intellectual operations of the day, furnish temporary solution for disturbing problems, still and satisfy tormenting desires so that the individual's mind may be quieted and he may continue to sleep. We often hear people say that they have not slept well because their dreams kept them awake. Such is not the case, however. It was their disturbing thoughts that interfered with rest and, but for their dreams, they might not have slept at all.

In one notable class of dreams, the nightmares, the sleep preserving function of the dream fails and the dreamer, in fear, awakes. The origin of the fear dream is as follows: due either to unusual relaxation of repression or to unusual strength of a repressed desire, the fancy corresponding to a wishfulfillment has begun to be represented in consciousness with inadequate disguise. Just as the dreamer is about to become aware of what he is really thinking, the feeling of fear takes the place of the censorship and awakens him before his dream is complete. The emotion in these dreams is the more or less justified fear that every person has of his own bad impulses.

Perhaps some idea of the value of dream analysis may be gained from the examples I have given, for they show how the dream deals, as it invariably does, with those hidden moral conflicts that are the most disturbing elements in a person's psychic life and which must tend to interfere with mental health. To those of you who feel that in the analyzed dreams that have come to your notice the interpretations seem fanciful, arbitrary, or based upon too little evidence, I would suggest that you defer final judgment until you have investigated the subject for yourselves. And in making such investigations, let me advise you not to be-

gin by studying the dreams of either chance acquaintances or intimate friends, for as such persons have nothing to gain from disclosing to you their inmost secrets, they will offer strong resistances against analysis. Rather begin your studies with patients who have confidence in you, or, better still, with your own dreams. Then, if you possess the two essential qualifications for psychanalytic work, patience and perseverance, you will I am sure, find material that fully corroborates Freud's teachings.

In closing I wish to say that I have not attempted in this paper any full presentation of Freud's theory of dreams. There are very many important points upon which I have not touched at all. I sincerely hope, therefore, that you may be dissatisfied with my faulty exposition of the subject and that by virtue of its very incompleteness, my paper may serve a purpose by leaving you with a desire for further and more accurate knowledge and thus lead you to study the subject for yourselves.

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THE ROUTINE PRACTICE OF PSYCHO-ANALYSIS AND ITS RELATED SUBJECTS.

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Justification of the great amount of attention that is being devoted to the latter day developments of psychiatry is to be found in the results obtained in clearing up the large number of psychoses and the curing and controlling of a larger percentage of cases than was formerly possible. With a view of demonstrating these possibilities, several cases that have been completed in the current year have had the histories abstracted and condensed, and are shown as examples of the work.

The first is taken as a type which, on account of its simplicity, shows in a brief and succinct manner the whole mechanism of the subject under discussion.

A. E., No. 780 of Mt. Sinai Hospital Dispensary service, 1910-11, is a girl eight years of age whose only previous illness has been measles. She is brought to the dispensary on account of her waking up at night from her sleep in great terror and fright without any reason that the parents could give. The child had not met with any accidents or frights. She attends school, and has made the usual progress of a girl of that age. She had a tonsillectomy and adenectomy performed for the night frights.

Questioned, after many protestations that she had had no abnormal experiences, said that when she went to bed or even when she went into a dark room, she saw a big man who looked at her. He had a "bad" face and she feared him. When asleep, she dreamed that this man was lying beside her and he was about to take hold of her; and just as he was about to take hold of her, she cried out. This was the *pavor nocturnus*.

On further inquiry, she said that she had never seen this man during the day but had heard of a man being about to do harm to little girls. She said that she knew the man was not real but yet she feared him. On being told to close her eyes, and asked if she saw the man, she said that she did. The description was a very vague, big, dark and bad face. Being asked why she was not afraid, she said that we were all about her. Now she was asked if she was sure that the man could do more when she was alone. She said that she did not know. Well, she was asked, if there was no harm-

ful man here and you see him so plainly, do you think that he is as harmless when you see him when you are alone as when you are here? She was not quite sure. Then you are not quite sure that this man is not real? She was certain that the man was not real. "Then you are afraid of a man who is not there?" "Yes." "Don't you think that this is foolish?" "Yes." "Well, do you want to be a fool?" "No." "Well, don't forget that a man who is not there can do you no harm."

This case represents the role of modern psycho-analysis and psycho-therapeutics in all its entirety, the child showing a mental deterioration based on a dream, which presents well defined fear, very often the manifest dream content and here we may also interpret a wish fulfilled, (Freudian explanation of end of a dream), for it is a well-known fact that children will be very curious as to the very things they fear, and as the wish is fulfilled, it brings out all the fear that the object is supposed to inspire.

Secondly, the interpretation of the dream is simple, showing the desire and the fear as expressed in the dream content, and showing the causal basis of the dream, viz., the means taken to frighten children into obedience and the non-correction of the child's fear of darkness which is soon clothed in a personality expressing the psychic process of representing the thought by a material object, here a man.

Thirdly, we here demonstrate the simplest form of re-education, setting the individual right—into the path of straight thinking. Of course this is a correction of previously wrong training and improper surroundings.

Another child 6½ years, of the Beth Israel Hospital Dispensary, came with a tic of the shoulder. There was nothing about the child in the way of degenerative stigmata, no history of trauma, mental or physical. The movement was a distinct movement of the shoulder group at a forward movement of the shoulder. It did not have any of the characteristics of the choreiform movement. Under mental excitement, the twitching increased in amount, but remained the same in character.

Analysis showed the child had dreamed of a man who was trying to catch her and she always just eluded his grasp as he was about to catch her shoulder and the movement which she was executing was a movement of her shoulder as she just in time withdrew it from the man's hand. Here we have a real antecedent of the dream as the girl had been frightened by seeing a man before, about whom she had forgotten until reminded by the research resulting from the dream analysis. So again the child was put through a course of analyzing her own fears and they were shown to be groundless and disappeared in about a dozen dispensary seances.

So the manifest dream content is well shown here to be a true actual occurrence of a man being met and being forgotten, and, through hearing children discussing the possible kidnapping of small children, has re-integrated her forgotten fright and made it real in her dream, and the fear so represented shows how she would naturally escape from such a predicament; but the movement as shown during her waking hours is the motor-manifestation of the actual picture of escape.

The foundations of our psychic processes are essentially motor[1] and as we become older, we do not so represent our mental processes, but in the child and in the primordial thoughts in older persons, the thought

[1] J. S. Bolton, Brain, 1910, Vol. XXXIII, pages 26-148, Localization of Cerebral Function.

is represented by the unit of its first formation. So here the impression of escape of great childish peril is represented by the movement of narrow escape from the clutches of the terror, by the automatism induced by the intensity of the dream feeling and its revivability from its intensity and repetition.[2]

The reason so much space is given to juvenile cases is that they represent the fundamental aberrations from the normal, uncomplicated by the results of the reactions to the broader surroundings of the more advanced age. The analyses teach us that only one wrong act or thought is necessary to be the beginning of a long train of reactions which group themselves about the point of the primary impression or of the primary mal-reaction. In early life, the complexes are comparatively simple on account of the limited experiences which can be grouped and coordinated about the fixed impression and so can be easily brought to the surface by direct questioning, but in the older individuals, the complexes formed by correlating varied experiences about the mental trauma is such that it is only by reducing them to the simplest terms, that the first cause can be ascertained. The primary reaction is determined, and lastly the modus operandi in the production of the end complex is obtainable, so that the conditions favoring such a reaction can be established for clinical use and thus be utilized in the re-education of the patient. By retracing with the patient step by step the formation of the complexes, they can be made to form a corrected psychic group until it is built up to the period at which the patients present themselves for treatment.

[2]The Revivability of a Feeling, Herbert Spencer, Principles of Psychology, Third edition, Vol. I, Paragraph 99.

Lastly they demonstrate the method of re-education according to the method of Du Bois. The normal reaction of a certain number of individuals is taken as a mean, and the subject under examination is led through the paths of his experience and his reaction or rather his opinion of how he should behave under the circumstances, is ascertained, and is compared with the reaction which he had shown according to the analyses. And the comparison is readily demonstrated as being in favor of the normal behavior, and now the patient is prepared to meet this situation or environmental stimulation in the normal way. Thus the patient is educated for each individual experience and thus habituated to normal thinking or more technically to normal reaction.

A young man, I. T., aged 20, a patient of Dr. J. Ziporkes, represented that he had attacks of blindness lasting from ten minutes to one-half hour so that he had to stop work and was led away, he being unable to see even the strongest light. He lost his position on account of his amblyopia. The direct history was that he had worked very hard, that he had read a good deal. His work required a good deal of both as he was a law clerk. Of late had a slight worry on account of the illness of a friend with whom he had sat up and read. He is a very bright young man, blond type, very tall, of good habits, very ambitious and well liked by his friends. Disposition sunny, has had no sexual indulgence or practiced any of the aberrations of the same. Examination was negative except for a few small spots of allocheiria on the front of the body.

Dreams are excessively erotic and has emissions with them. One dream—met a lady he knew and highly respected. She was in street clothes but he made the most

rude sexual advance and, with no ceremony picked up her clothes and had coitus with her. This, in the dream state, occurred in the country. He had *actually* been to the country and had been indisposed and this woman of whom he dreamed had really come into his room to make him comfortable; of course the manifest dream content is thus made evident. His pre-sleeping ruminations (a great determinant of the coming night's dreams) are of females he daily meets socially or in business and they are usually on a sexual basis. Further, in his sleeping state, he thoroughly enjoys his sexual experiences in his dream state. He has found himself denying himself desires in his dreams, and when this occurs the woman fades away with no apparent mode of disappearance. At no time has he found himself repulsed in his dreams. Now to complete the history, it was necessary to get at the basis of the dreams and the content of the ungratified desire which has been repressed.

Under strict[1] Freudian technique, a few of the notes are the following: "He is sitting in a room with a young woman. They are speaking of various topics. There are several other people about. These people soon go home. We remain alone. The conversation lags. We are sitting next to each other. We are kissing. We are going through other forms of enjoyment, kissing and embracing. I have an emission." This is a frequent form of indulgence with him and he hates himself for it.

The reactions to associations[2] were as follows: Those with asterisk were delayed.

Light	Glare
Water	Lake
Child	O
Child	Little girl
Book	Call
Clouds	Thick
Blue	Sky
Man	*Yourself
Wrong	*Committing
Low	*Mean
Spiritual	No answer
Which	*Woman
Match	Light
Low	*Mean
Which	*Woman
Fan	Breeze
Warm	Depressing
Milk	Depressing
Shade	Window
When	Four months ago
Light	Latch
Mischief	*Man
Man	*Tall
Satisfy	Desire
Wrong	*Stay
Fair	Air
Woman	*Love
House	Cottage

These are enough examples of his associations which coincide in a marked degree with the dreams and the mental catharsis

[1]Freudian technique: Patient in a dark room lying on a couch, screened from his examiner and told to speak on any subject that comes into his mind without keeping anything back, no matter how trivial or unseemly the word or thought may seem to him or how recently or how distantly the event or thought has occurred. There are no directions to be given, the patient being allowed to wander, but at times it is necessary to direct subject to speak of certain periods. In this way a patient will drift from thought to thought showing unassociated and associated ideas and uncensored by everyday conventionality.

[2]These reactions are after the method of Jung of Zurich. They represent the primary thoughts connected with each word. The patient is seated in a chair in a quiet dark room or is laid down on the couch and told to dismiss all thoughts from his mind and answer the first word that comes into his mind as he hears the word called out by the examiner. This will show habituated thought and where there has been a mental commotion in association with this word, there will occur so many things to answer that an attempt at selection will be made and thus give an increased time reaction. By timing with a stop watch, these latter can be ascertained, as well as the mean of the habituated reactions. Questions, later, in regard to each answer (re-integration) will explain the association.

(results of Freudian technique), but the full explanation was only possible by investigating the mental poise of the individual. He had become aware of the dangers of *libido* and also had assumed a position that he would never indulge sexually until marriage and considered himself very superior in making such a resolve; yet still he had exposed himself to the stimulation of his sex sense by his social peregrinations, and had fallen mentally from grace; but with a praiseworthy effort, he had put this in the background with a wish that he could keep his resolve. He had forgotten his sexual longings to a great degree, when he had come for treatment, except for his dreams.

Thus we have an individual, who, in spite of his high minded resolves, can not keep as mentally pure, because he is exposed to the influences of the stimulations of people with whom he comes in contact. He naturally reacts to them, but, on account of inclination and convention, he submerges them and does not allow them to come to the surface during conscious thought, but in the dream state, where the will is in abeyance, they *do* come to the surface, incoordinate, on account of the paralysis of the higher centers in sleep; and in the association where there is no co-ordination, but reaction to the stimuli of the single, the first, or primary word, expressing the primary thought with which it is associated, is given out without the intervention of the will. More significant is the halting in the reaction showing that incomplete association where the individual has not taken the trouble to complete the association or is unwilling to do so. Where the association word is grossly apparent and it is against the interest of the subject, as for example a criminal, to say this word, there is a halting, giving the delayed reaction time and so allowing the attraction to it, of the examiner.

Now in the quoted case, the delayed reaction was at man, wrong, low, mean, which, woman. Then the patient was asked of each word individually, what particular thought had occurred in his mind in connection with the word, that he had given as an answer and the following were the results obtained. The *man* was himself who was *tall*. He had *committed wrong* which was *low* and *mean* with *which woman* with whom it was *wrong* to *stay* both because it was wrong on account of his convictions and because she was married and as a further reaction still, she, *woman* is to *love* which to his mind is not sexual but spiritual (spiritual was negative in the reaction). The other significant reactions were the glare of the light on account of his amblyopia, *clouds* were *thick* representing trouble in which he was. The *blue* represents a clear *sky* supposed to represent peace and contentment. He would often *call* for her *book* to take it to the library and *warm* reminded him of his indisposition during the summer when he was in an illy constructed cottage and so *depressed* was he that he had to be fanned to keep him from suffering from the effects of the heat. The milk represented his depression during his illness and *four months ago* represented the time when this occurred.

So now we here have the whole mental picture which has been haunting this young man, a strong sex desire and its fulfillment in his sleep, a wish gratified and a fear realized, but his disgust at himself is well shown in his following reactions. A *man* should be *big*, a man should be like *yourself*, meaning his interlocutor, and, on account of his supposed learning and accom-

plishment, must have will power and purity and in the reaction of the word *how,* there is *restraint,* showing the supposed method of keeping from the practices of which he dreamed. That he should even dream of them was to him so contrary to his convictions that he became disgusted with himself and so he tried to even forget that he had even been lax to the degree of dreaming of the sexual act with resulting orgasm. He did not wish to see it or see himself in such a role. He wanted to forget himself in such a position. In other words that part of his life he wished to extinguish and so strong had this suggestion remained in his everyday thought that it actually did occur as a sense stimulation, the resulting amblyopia.

The re-education was first, to make the man realize that he was in the age when the sex sense was beginning to assert itself, and if he decided that he wished continence, he demonstrated that he had the first impulse of a civilized man, where he showed that he was above the animals of the field, who run one after the other; that he did behave as he did was to be expected, as he had exposed himself to the stimulation of the sex sense so demonstrating its presence, and if he had not reacted as he did, he certainly would not be normal from that particular standpoint. It would be as if a man would not react to the normal impulses of nature in connection with the other organs of the body. So this individual was shown how he must conduct himself if he wants to keep to his intended *morale.* And the explanation of his various doubts in regard to this particular function cleared up many points neglected in his general education. Now that these are established, he has become quite normal in his psychology, has resumed active life in business with no recurrence of any of his symptoms and writes cheerful letters, normal in every way.

That all the causes of doubt ("compulsion") psychoses are not of sexual origin as held by the extremists and strict followers of the Freudian School, is well shown by the following case: Mrs. S. R., a patient of Dr. N. Gordon, 36, married 15 years, has had seven children, five of whom are living and healthy. Was born in Roumania, has been in the city 24 years. Does some housework, lives with her mother as she is afraid to live alone, fearing that she will harm herself or her children or someone. Since her first confinement, pictures a man as killing some person and she is afraid that she will emulate him or will do so because she is the same sort of a person as he is. The reason she thinks so is because a man who worked in her father's shop was called crazy, and she had it that he had killed some person because a child had died accidentally in the shop. Also a woman had died of miscarriage, and she gave him credit for being the cause of the same. Is always thinking of the insane, and reads of insane doings as reported by the press with avidity, and then she pictures herself in the quoted person's place doing what he is said to have done. Her initial history is the most confused and tangled mess of killings that has occurred in any of the most violent cases of paranoidal psychoses, but after each recital of each particular case of violence, she would invariably end up with the following: "And I am afraid that I am insane and I will do the same."

The patient was too poor a mental type to be worked by the orthodox methods, but the dream states were investigated and the deaths of various people was the usual con-

tent. In the dream state she, herself, was never in danger, but it was some person who was dying or dead or running in the street with his neck cut. It was some other individual who was transformed into a rat after death. Dreaming of rats and mice with this transformation of the human soul was very frequent. Is in fear of going in the dark because of mice and rats, and is in constant trepidation that she will start running and screaming in the street because insane are known to do that. *She keeps from handling knives or sharp household articles because that she will use them to do harm to someone, her children, etc.* Avoids windows, heights and river fronts, fearing that she will harm herself or her children or someone. In no one of her complexes does she picture her husband as the object of her insane wrath. So the death idea, and the doing of harm to some person seemed to be the central idea, so that the investigation was attracted to ascertaining of whose death she had first thought.

When she (the patient) was between fifteen and sixteen years of age, her father took a servant to a fortune teller for the elucidation of something or other that was troubling her. As the man was about to leave, the seeress told him that she had valuable information to impart to him. As he did not evince any interest, she said that she would tell him the most important fact free of cost, that he would become rich when his wife died. The man enjoined the servant not to tell about this conversation at home, but the girl did speak about it and the whole family was made aware of the good fortune awaiting them. The patient found herself thinking about her mother's death, and with each thought there also came to her mind the words of the seeress of the wealth that that event had as a necessary corollary; this terrified the patient that she could be so cold blooded in considering such an event and she questioned herself if it was natural for a child to so think of her mother. Soon the aberrant thought was taken as a wish, and she heartily despised herself for this, but, as she thinks of it, she is sure that she did not wish it, but she blamed herself for doing so when she would think of the encounter of her father and the fortune teller.

Since the thought would occur to her and when it would, she immediately would upbraid herself as if she were making a wish of it, she began to ask herself why it was that she could not rid herself of such an obnoxious thought; and the answer was that something must be wrong with her on that account, and the matter must be that she was wrong in her mind or in other words insane.

To prove her thesis, she began to place herself in all sorts of theoretical predicaments to see how she would behave while she thought of them. This became so habitual that she began to fear that she would actually do all the things that she would create in her imagination, and the consequent fear of all her imaginary escapades became real, and she really came to me as she had gone to many other neurologists for the purpose of testing her sanity. In conformity with this, she developed all the indecision and capriciousness that is seen in the chronically unbalanced. When she read of anything that was strange and bizarre, she would immediately say to herself, "I will very likely do the same for am I not also insane," and thus doubt and confusion were ever attendant at every step in her life.

The treatment was re-education, beginning with the first thought, for it was this

that created the pathological state that was creating all the disturbance and when this was put on a firm normal basis, every other position would naturally align itself from the same normal view-point. She was asked if the thought or news that her mother would die was not very important. It certainly was.

Q. If you heard of that occurring, it would be most unnatural for it not to receive the most considerate and serious attention? A. This was also agreed to.

Q. And if so tremendous a fact as her death was coupled with some other occurrence, would it not be most natural for you to also think of the associated fact, supposed to be connected with it? A. That is reasonable.

Q. Then it was not wrong for you to recurringly think of this death which has not occurred? A. No.

Q. Then it also was proper and necessary for you to think of the reason which prompted the seeress to tell your father of the fate awaiting him? A. Yes.

Q. Then you were wrong in calling yourself crazy for this thinking? A. Yes.

Q. Then you agree with the physicians who say that you are not insane. A. Yes.

(In the same way each position to which she has become habituated is taken as follows):

Q. You think that the reason you do or think this, is because you thought you were crazy? A. Yes.

Q. But the reason you thought you were insane was because you thought wrongly in regard to the thought about your mother? A. Yes.

Q. But you thoroughly believe that you were wrong in the supposition of your wrong? A. Yes.

Q. Then you are not insane to have thought that way? A. No.

Q. Then since you were not insane, you know of nothing which could have made you insane? A. No.

Q. Then you are not insane? A. No.

Q. Then your fear is groundless? A. Yes.

Q. But you are cognizant of that fear? A. Yes.

Q. If you are crazy you would be very careful of what you did? A. No.

Q. And you are very much so as expressed by your trepidation. You are aware of what you are going to do and you fear to do it because of the impropriety involved and you know that the reason you fear is that once you thought you could not keep yourself from doing it? A. Yes.

Q. But you know that the reason of your fear was groundless so your additional fears are not to be so considered? A. Yes.

Q. And the fear is perfectly natural since you did not know that you were sane, you had every right to be afraid that you would be as an insane person is? A. Yes.

Q. So this confirms that you are sane because you have a fear from very natural causes, the fear that you have not the control of a sane person? A. Yes.

Q. And thus you are agreed that the fear only confirms that you are perfectly sane and that you have the control necessary to refrain from doing all these foolish things? A. Yes.

Q. And you can go right ahead and do the thing you intended, for you cannot do anything that is wrong as you yourself say that you will not do it as you recognize when it gets to the point of abnormality? A. Yes.

Thus the patient has been habituated to go along the normal ways of normal life.

At times a good history with the diagnosis by exclusion from inference is possible as the following case of Dr. G. A. Friedman demonstrates:

S. G., age 17, native born of foreign parents, a student in the City College, complains of continuous restlessness, general trepidation, empty feeling in the stomach and has lost weight. Is greatly worried over the reading of a pamphlet of some advertising quack, which informs him that masturbation is very harmful and will cause all sorts of dire diseases, and, as he himself had masturbated to a great extent, he is greatly concerned. This alarmed him so that he became the classical nervous wreck,

with every symptom that the body can experience. He went to a famous alienist who told him that he had only stomach trouble, and put him on buttermilk, and accounted for his urethral paresthesia by the fact that his urinary stream was twisted indicating stricture. At any rate he went to the stomach specialist for treatment, who soon referred him for mental rather than gastric therapy.

The examination was negative from a neurological standpoint. He was thin of body and very shy. Had difficulty in allowing himself to be examined by a physician and exposing his body. The thought of this gives him chills and hot flushes and unfits him for his work. He is unable to do his class work because any work where the attention of the men of the class is directed at him makes him forget what he is doing and instead of the excitement of mental exertion, he gets a sexual orgasm with its attendant emission. So he has deteriorated from a first rate student to one who is in danger of being dropped for inefficiency. The same thing occurs when he gets up to make an oration or when he attempts to take part in a debate. All he knows is that an attempt at mental work is attended by inability to concentrate, very often ending up with the emission.

In going over his history from the first moments that he has conscious memory, the first significant fact that stood out was the first masturbation. This was induced by the accidental friction of his hand over the penis meant to be a scratch. After this, masturbation was very frequent, at times a few times a day. In inducing the necessary mental state for the erection of his penis, the picture that would occur in his mind's eye was a penis or a number of the same; so whenever he had a sexual thought, he had it identified with the materialization of a penis. His thinking of another person as necessary to fulfill the real cause of sexuality was all of one with a penis. A female to him was endowed with the power of causing and satisfying sexual desire by her female attributes which was with a penis, since that was the way he himself was doing the same thing. As he grew older he became aware that the female did not have her attributes by virtue of the same organ as he had pictured the cause of all his sexual experience and so he was no more attracted to that particular portion of the human race but only to man, he alone having the necessary cause of his sexual pleasure and stimuli, and he was soon picturing himself as having some sort of congress with persons of the same sex as himself and was completely homosexual on inclination.

Now it was comparatively easy to account for his symptoms. Since he had the sexual impulses for the male, the undressing before a male was to him as embarrassing as if he were a normal man doing the same before a female and the experience in the class room was as follows: As he rose up or attempted to say something, the attention of his neighbors was necessarily attracted by him. As he became aware of this, he became conscious that it was men that were looking at him and as this occurred, he became sexually stimulated, flushed, trembling, dry in the throat, and as he would make a final effort to concentrate on what he was trying to do, he would have his orgasm.

The re-education of this individual proceeded from the view-point that reaction to the stimulus is normal so the first masturbation was a reaction to the stimulation, wrong as it was, but the result was biologic-

ally correct. As he had to get his facts from his own experience naturally, he educated and habituated himself accordingly, again correctly, taking the psychological dictum of cause and effect. And so habituated did he become and so neglected was this portion of his training in life, but there was no correction and only fright from the pamphlet. So he is shown the exactness of his outlook and that the only abnormality present is due to his first misinformation, which, if it had not occurred or had not been allowed to remain, would not have built up the further habituation to wrong view-point. Now that he has shown that he is able to react correctly to stimuli and that he is normal, he adjusts his experiences taking up thought after thought and revises it from his newer knowledge. And the fear and trepidation of his colleagues is gradually disappearing, as he more and more adjusts himself, so that only normal stimuli reach him under conditions which are normal and correct.

Thus one is able to properly diagnose the disease and the mode of its production. It is not merely cause and effect but the state in which these forces were allowed to come into action. What one sees in all this routine work is that the special technique is valuable and very often absolutely essential, but a good history, with human interest and proper sympathy for the apparent weaknesses of fellow being, is all that is necessary. The man who does not allow his initial disgust to influence him, and brings tact and common sense to his support, will succeed as often as the trained psychiatrist; but one must be sure of his ground, for one misstep can do more harm than all the misinformation that the subject himself has supplied. If the attention of the practitioner has been attracted by the bare outlines described in this paper to the possibilities of the fact that the hysterics and the various psychasthenics can be kept as useful and *good* elements in the community, this paper will not have been in vain.

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SENILE RHEUMATISM.

BY

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To the layman any joint pain is rheumatism unless occurring in the big toe when it is called gout. A pain in the back is lumbago or muscular rheumatism, if very painful it is inflammatory rheumatism and if there are only occasional twinges it is called rheumatics. The physician employs the term rheumatism as a diagnostic placebo with no more scientific accuracy than the layman. It satisfies the patient though he knows no more than he did before. Some day, perhaps, physicians will agree upon a rational nomenclature and give a distinctive name to every disease, a name from which we can determine the pathological condition, some distinguishing feature and if need be, the etiological factor. When that day comes we will call the condition I wish to describe, arthro-sclerosis universalis senilis. Until then the name senile rheumatism will distinguish it from the many other joint affections miscalled rheumatism.

This senile rheumatism is the old man's rheumatics, the aches and pains that occur in old age and due to the senile changes that occur in the joints, muscles and tendons. These are the hardening of the intervertebral discs, hardening and shortening of the capsular ligaments, roughening of the articular cartilages, drying of the synovial

sacs, stiffening of the tendons and waste of muscles. The pains occur only on motion and most frequently in the lumbar region of the spine when stooping or recovering, in the hips and knees when walking and occasionally in the shoulders, elbows and ankles. The smaller joints are rarely affected. When the pains occur in the feet they are usually due to broken down arches, hammer toes, bunions, corns or other pedal defects. There is no inflammation, redness or swelling about the joints although there may be an edema about the ankles due to cardiac or renal disease or it may be a hypostatic edema due to weakened return circulation in the lower limb. The earliest symptom is usually pain and difficulty in arising from a stooping position and a sense of lessened power to arise. It is not a sharp pain as in lumbago but a dull ache which gradually disappears after the individual is erect. Mild, prolonged motion as a slow walk will produce an ache not severe enough to incapacitate the individual but enough to be annoying, but active motion, as an effort to kick, will produce a sharp pain. Prolonged standing will produce a dull ache in the ankles. Joints employed alike suffer alike and we find the pains in the two hips equally severe but the right shoulder is more frequently affected than the left, the lower part of the spine more frequently than the upper. The joints are apparently enlarged, due to the retraction of wasted muscle but an actual enlargement due to osteoporosis is sometimes found.

The only diseases that this condition is liable to be mistaken for are chronic rheumatism and the chronic multiple type of arthritis deformans. In chronic rheumatism there is always more or less pain and stiffness in the affected joints and the stiffness is worse after prolonged rest. The stiffness diminishes after exercise while in the senile condition the pain and stiffness come on only after exercise and disappear upon rest. In arthritis deformans the disease usually begins in the hands or feet, the joints are swollen and painful upon pressure and although the disease is progressive there are latent periods with exacerbations during which there are intense pain, swelling and distressing muscle contractures. These symptoms do not occur in senile rheumatism, nor does the condition proceed to the extent of complete anchylosis. With advancing age the loss of strength makes motion more difficult and the senile changes in the tissues forming the joints increase this difficulty and produce pain upon motion but there is no pain upon pressure, no swelling, and no remission. This senile rheumatism being one of the manifestations of aging it can neither be prevented nor cured. We can however relieve the pains through local measures and improve the general condition of the individual. The pain usually disappears soon after joint motion has ceased but if it persists the application of moist heat followed by an inunction of a two percent cocaine liniment or ointment using an animal base, will generally give relief. Sweet butter is an excellent base for this purpose. To prevent it becoming rancid I add a couple of grains of benzoate of soda to the ounce. The constitutional measures are hygienic and medicinal the latter consisting of the intermittent use of phosphorus and the iodide of arsenic. I have spoken of these measures in earlier papers on senile debility and the treatment of diseases in senility.

BOOKS OF THE YEAR.

1911.

While the following list does not contain every medical work published during the year 1911, it does include *all but a very few* of those that are worthy of any attention at the hands of the profession. It will be found, therefore, about the only complete and authentic list of recent publications that the general practitioner has at his command, and with the brief descriptive note which is given to indicate the scope and character of each book, it should prove of material aid in helping the readers of AMERICAN MEDICINE to select the new books which they may wish to add to their libraries. Although the list submitted last year was by no means as extensive as that which follows, it was commended so highly, and so many of our readers found it serviceable, inasmuch as it supplied them with special book information, that we determined this year's list would be made just as complete and authentic as possible, in order that it might be the most useful and comprehensive compilation of standard medical books issued by any medical journal or individual during the year. It often happens that a medical writer wishes to refer to the title of a book, its author or some other detail. The book may not be handy, nor any library that has it. But all the physician who subscribes to AMERICAN MEDICINE has to do is to refer to this December, 1911, issue.

ANATOMY, PHYSIOLOGY AND EMBRYOLOGY.

A Clinical Atlas of Sectional and Topographical Anatomy.—By Richard J. A. Berry. An Atlas of sixty plates, beautifully reproduced in colors from photographs of actual dissections made on the clinical planes of Addison. With an introductory chapter. Large 4to. Half mor. $12.00. Published by Wm. Wood & Co., New York.

A Cross-Section Anatomy.—By Albert C. Eycleshymer, M. D., Professor of Anatomy, St. Louis University, and Daniel M. Shoemaker, M. D., Associate Professor of Anatomy, St. Louis University. D. Appleton & Company, publishers. One large folio volume (11¾" x 15"). Half morocco. $20.00 net.

The sectional method of studying gross anatomy has been given such emphasis of late that the Council on Medical Education of the American Medical Association has recommended that it be a part of the anatomical work in all medical colleges. With this great work the clinician is furnished with a practical gross anatomy. The book contains a brief explanatory text and about 130 illustrations. Of these, 113 represent serial sections of the entire body. There are eight reconstructions which serve as key plates to show the levels at which the cross-sections are made. These are supplemented by the reconstructions of the thoracic and abdominal viscera in a number of different subjects. The mental pictures gained from a study of sections are easily carried over to the living body and thus form the immediate anatomical basis for practical work.

Essentials of Anatomy.—By Charles B. G. de Nancrede, M. D., Professor of Surgery and of Clinical Surgery, University of Michigan. *Eighth Revised Edition.* 12mo of 430 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.00 net.

This valuable book hardly needs recommendation. An eighth edition seems quite praise enough. As a complete, accurate, and reliable work on anatomy it has no equal for its size.

Human Anatomy, Including Structure and Development and Practical Considerations.—*Third edition.* By George A. Piersol, M. D., Professor of Anatomy at the University of Pennsylvania; Thomas Dwight, M. D., Professor of Anatomy at the Harvard Medical School; J. Playfair McMurrich, Ph. D., Professor of Anatomy, University of Toronto; Carl A. Hamann, M. D., Professor of Anatomy at Western Reserve, Cleveland, Ohio; J. William White, M. D., Professor of Surgery at the University of Pennsylvania; John C. Heisler, M. D., Professor of Anatomy at the Medico-Chirurgical College of Philadelphia. Imperial octavo. 2,088 pages. 1,734 illustrations, 541 of which are in colors. Cloth, $7.50 net. Half leather, $9.00 net. Two volumes, half leather, $10.00 net. Patent thumb index, 50 cents additional. J. B. Lippincott Company, publishers, Philadelphia.

This work is the product of American authors exclusively. It is entirely original in its descriptive matter, its arrangement, and its illustrations, for which special dissections were made throughout. It is consequently an all-American Anatomy, and we believe destined to be a monument to the American medical profession and American publishing, as it is doubtful if any work heretofore has had expended upon it the amount of labor and money required for the production of Piersol's Anatomy.

A Text-Book of Surgical Anatomy.—By William Francis Campbell, M. D., Professor of Anatomy at the Long Island College Hospital. *Second edition revised.* Octavo of 675 pages, with 319 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net; half morocco, $6.50 net.

The first aim in the preparation of this original work was to emphasize the practical. It is in the fullest sense an applied anatomy—an anatomy that will be of inestimable value to the surgeon because only those facts are discussed and only those structures and regions emphasized that have a peculiar interest to him. The single purpose of the work is to aid the practicing surgeon in mastering practical anatomy.

This list has been reprinted in neat pamphlet form and any person who desires a copy may secure same by making request and including four cents in stamps to defray postage.

The Abdomen Proper.—By W. Cuthbery Morton, M. A., M. D., Edin. Plates and text, $12.00. Rebman Company, 1123 Broadway, New York.

The present work is believed to indicate a method by which it may be possible to obtain a description of the body sufficient at once for systematic, regional, and practical study. It consists of two complementary portions, the plates and the text.

The plates and text together form a single description which ought to prove of service not merely to the student and teacher in anatomy, medicine, and surgery, but also to the busy practitioner, physician, and operating surgeon who wishes to revise or retain his knowledge of anatomy.

Human Physiology, Vol. I. Ill., 8°, $5.25d. Circulation and Respiration. Cloth, xiv+592 pp., bibliogr., indexes. By Professor Luigi Luciani, Director of the Physiological Institute of the Royal University of Rome. Translated by Frances A. Welby. Edited by Dr. M. Camis, Institute of Physiology, University of Pisa. With a Preface by J. N. Langley, F. R. S., Professor of Physiology in the University of Cambridge. Published by MacMillan & Co., New York.

Professor Luciani's book, whilst describing phenomena with considerable detail, treats lucidly the broad principles to be deduced from them. It stands midway between the text-book which confines itself to summing up the results of physiological investigation, and that which gives also a minute historical account of the progress of investigation. It deals with the main outlines of the history of each branch of the subject, but does not allow this to interfere with the even flow of narration. This volume deals with the Circulatory and Respiratory systems.

The New Physiology in Surgical and General Practice.—By A. Rendle Short. Intended for the general practitioner, the consulting surgeon, and candidates for higher examinations in physiology. 12mo. Muslin, $2.00 net. Published by Wm. Wood & Co., New York.

A Text-Book of Physiology: for Medical Students and Physicians.—By William H. Howell, Ph. D., M. D., Professor of Physiology, Johns Hopkins University, Baltimore. *Fourth Edition, Revised.* Octavo of 1018 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4.00 net; half morocco, $5.50 net.

The great advancement in the subject of physiology as the result of much experimental work demanded a revision of this book, and Dr. Howell has made it, indeed, a thorough one. All the recent literature has been thoroughly digested by Dr. Howell, and the important views and conclusions summarized. Not a page but reflects careful scrutiny. In many cases you will find entire articles have been rewritten, and discarded theories replaced by the new ones.

Hand-book of Physiology.—By W. D. Halliburton, M. D., LL. D., F. R. C. P., F. R. S., Professor of Physiology, King's College, London. *Tenth Edition.* Being the twenty-third edition of Kirkes' Physiology. With 592 illustrations in the text, many of which are colored and three colored plates. Octavo. xvii+923 pages. Cloth, $3.00. (Blakiston).

This is the book formerly known as "Kirkes' Physiology," which for a number of editions has been edited by Dr. Halliburton. It includes many new and original illustrations, included at his suggestion, has been practically rewritten by him during the course of several revisions and may be considered, therefore, a new book. For this reason it has been given the name of Halliburton instead of Kirkes, who has been dead for many years.

Text-Book of Embryology.—By Frederick Randolph Bailey, A. M., M. D., and Adam Marion Miller, A. M. 8vo, 688 pages, illustrated by 515 engravings. $4.50 net. This book as originally planned was an outgrowth of the course in embryology given at the College of Physicians and Surgeons, New York. The book has been exceptionally popular, a second edition having been required within two years from the original publication. It is beautifully illustrated. Published by Wm. Wood & Co., New York.

BACTERIOLOGY.

Aids to Bacteriology (Students' Aids Series). —By G. A. Moore and William Partridge. *Second Edition.* Throughout this book the authors have emphasized the practical bearings of the subject, and have invariably given prominence to the technique of practical investigations rather than to theoretical discussion—when opinions are to be based on the results of an examination, they have indicated tersely the significance and relative importance of individual data. 16mo, 248 pages. Flex. clo., $1.25. Published by Wm. Wood & Co., New York.

Manual of Bacteriology.—5th edn., col. ill., 12°, $3.25d. Cloth, xxiii+688 pp., bibliogr., index. By Robert Muir, M. A., M. D., F. R. C. P. (Ed.), Professor of Pathology, University of Glasgow, and James Ritchie, M. A., M. D., F. R. C. P. (Ed), Superintendent of the Royal College of Physicians' Laboratory, Edinburgh, formerly Professor of Pathology in the University of Oxford. *Fifth Edition.* With 174 illustrations in the text and six colored plates. Published by The MacMillan Co., New York.

A new edition of this valuable work embodying important recent additions in nearly every department of bacteriological research. Several new illustrations and a series of colored plates have also been added.

Parasitic Amebae of Man.—By Charles F. Craig, M. D., Captain, Medical Corps, U. S. Army. Published with the authority of the Surgeon-General of the United States Army. Crown octavo. 253 pages, illustrated by 30 plates containing many illustrations. Cloth, $2.50. J. B. Lippincott Company, publishers, Philadelphia.

The great importance of amebic infections of the intestines and liver in man, and the fre-

quency with which such infections occur, render this work of interest to the medical profession in the United States. This work gives a detailed description of the various species of amebae which have been described as parasitic as regards morphology, life-cycle, methods of differentiation with relation to disease, and includes everything of value resulting from the investigations of these interesting and important parasites.

Spirochaetes.—By W. Cecil Bosanquet, M. D., Fellow of the Royal College of Physicians, London. Octavo of 152 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Artistically bound, $2.50 net.

This is a complete and authoritative monograph on the spirochaetes, giving morphology, pathogenesis, classification, staining, etc. Pseudospirochaetes are also considered, and the entire text well illustrated. The high standing of Dr. Bosanquet in this field of research makes this new work particularly valuable as an authority.

CHEMISTRY.

A Text-Book of Medical Chemistry and Toxicology.—By James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. *Third Revised Edition.* Octavo of 655 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net.

The changes throughout this work have been numerous, although by the omission of obsolete matter the book has been kept down to its former size. Based on nearly fifty years of practical experience in teaching chemistry and medicine, this work by Dr. Holland possesses a real value to you, because it expresses that definite knowledge acquired only in the laboratory and the class-room—knowledge of the most practical sort; and Dr. Holland has presented his subjects in a way that will prove most helpful to you. Toxicology is given more space than in any other text-book on chemistry, and the various tests are detailed most clearly.

Practical and Analytical Chemistry.—By John Muter, F. R. S., F. C. S., etc. Fifth American from the last English Edition. Revised in accordance with the United States Pharmacopia, to meet the requirements of American Medical and Pharmaceutical Colleges. Octavo. xiii+242 pages. 56 illustrations. Cloth, $1.50. (Blakiston).

This well known book covers the field of Analytical Chemistry in a very concise manner. Both qualitative and quantitative analysis are considered and under the latter head volumetric and gravimetric methods are described at considerable length. There are chapters on the Analysis of Water, Air, Food, etc., the whole book having been Americanized so as to be in accordance with the last edition of the United States Pharmacopia and the recent Food and Drugs Act.

Volumetric Analysis.—By Francis Sutton, F. I. C., F. C. S. *Tenth Edition*, Revised Throughout with Numerous Additions, by W. Lincolne Sutton, F. I. C., Public Analyst for the County of Suffolk, Norwich, Ipswich, etc., and A. E. Johnson, B. Sc. (Lond.), F. I. C. Associate of the Royal College of Science, Dublin. With 121 illustrations. 8vo. xiv+621 pages. Numerous tables. Cloth, $5.50. (Blakiston).

This edition has been revised throughout. Much obsolete matter has been eliminated, though the general scope and character of the book remains the same.

Qualitative Chemical Analysis of Inorganic Substances with Explanatory Notes.—By Olin Freeman Tower, Ph. D., Hurlburt Professor of Chemistry in Adelbert College of Western Reserve University. *Second edition, revised.* Octavo. Cloth, $1.00. (Blakiston).

The laboratory directions are brief but explicit and include in this edition a few additional methods of separation. The Solution Table is also considerably enlarged over that in the first edition. The directions and explanatory notes are plainly and clearly written.

Commercial Organic Analysis.—A Treatise on the Properties, Proximate Analytical Examination and Modes of Assaying the Various Organic Chemicals and Products employed in the Arts, Manufactures, Medicine, etc., with Concise Methods for the Detection and Estimation of Impurities, Adulterations, and Products of Decomposition, etc. By Alfred H. Allen, F. C. S. New Fourth Edition by Various Authors. Edited by Henry Leffmann, M. A., M. D.; W. A. Davis, B. Sc., A. C. G. I., and Samuel S. Sadtler, S. B. Eight octavo volumes.

Volume IV. Resins, India-rubber, Rubber Substitutes and Gutta-Percha, Essential Oils. Six illustrations. Octavo. viii+466 pages. Cloth, $5.00. (Blakiston).

Volume V. Tannins, Analysis of Leather, Dyes and Coloring Matters, Dyestuffs of Groups, 6 to 12, Coloring Matters of Natural Origin, Analysis of Coloring Matters, Coloring Matters in Foods, Inks. Octavo ix+704 pages. Cloth, $5.00. (Blakiston).

Volumes I-II-III of the new edition of this book were issued previous to 1911; the completing volumes, VI-VII-VIII, are to be issued during 1912. The whole work has been carefully revised, the articles having been prepared by English and American specialists, selected with great care by the new editors.

Chemical and Microscopical Diagnosis.—By Francis Carter Wood, M. D., Professor of Clinical Pathology, College of Physicians and Surgeons, New York. D. Appleton & Company, publishers. Nine colored plates and 194 illustrations in the text. Cloth, $5.00 net.

The new third revision of Dr. Wood's book makes it one of the most up-to-date treatises on its subject to be had. It discusses in thorough working detail the examination of the blood, the gastric contents, the feces, parasites, oral and nasal secretions, the sputum, the urine, transudates and exudates, and milk. Dr. Wood's plain English, his simple, clear-cut, straight-to-the-point instructions, his practical

methods, formulas, analyses, have made his work of great worth to the practitioner and the laboratory man as well.

Electro-Analysis.—By Edgar F. Smith, M. A., Ph. D., Sc. D., Blanchard Professor of Chemistry, University of Pennsylvania. *Fifth Edition.* 46 illustrations; xi+332 pages. Flexible leather, $2.50. (Blakiston).

The prominent features of the former editions of this book have been preserved, such changes having been made as to bring it up to the present methods of analysis and to include the recent advances in the literature of electrolytic analysis. Some of the pages have been entirely rearranged and every attempt has been made to make the book perfect.

A Text-Book of Chemistry.—For students of Medicine, Pharmacy and Dentistry. By Edward C. Hill, M. S., M. D., Professor of Chemistry and Toxicology at the Denver and Gross College of Medicine. *New Revised Edition.* Crown octavo, 500 pages. Extra cloth. Price, $3.00 net. F. A. Davis Co., Philadelphia.

Dr. Hill's book has been very highly rated as a teaching manual and to the practitioner who wishes something newer in his library on this important branch, Hill's "Chemistry" revised and thoroughly up-to-date, probably offers as much in the newer touches in Chemistry as can be reasonably expected in one pair of covers.

DENTISTRY.

Applied Anatomy and Oral Surgery for Dental Students.—By Robert H. Ivy, M. D., D. D. S., Assistant Oral Surgeon to the Philadelphia General Hospital; Assistant Surgeon, University of Pennsylvania Hospital. 12mo of 280 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Price, cloth, $1.50 net.

Dr. Ivy has written a book that will prove extremely helpful to dental students. It is just such a book as they have long felt the need of —a book that would present to them in clear, definite language, the essential facts of oral surgery and of anatomy as applied therein. Dr. Ivy has met the demand most admirably.

Dental Anesthetics.—A Text-Book for Students and Practitioners—With a contribution in Analgesia. By Wilfred E. Alderson, M. D. (Student's Aids Series). 16mo, flexible muslin binding, $1.00 net. Published by Wm. Wood & Co., New York.

The purpose of this little book is to present, in concise and economical form, the main points regarding the administration and use of dental anesthetics. The book should prove useful to practitioners interested in the subject, and to dental students preparing for examination.

Notes on Dental Metallurgy.—For the use of Dental Students and Practitioners. By W. Bruce Hepburn, L. D. S. This book was compiled for the use of dental students preparing for the American, British and Colonial dental degrees. The various college and school requirements have been consulted and the necessary matter supplied. Obsolete theories have been avoided, and the opinions of the most authoritative only have been included. 12mo, muslin, $2.00 net. Published by Wm. Wood & Co., New York.

Modern Dental Materia Medica, Pharmacology and Therapeutics, Including the Practical Application of Drugs and Remedies in the Treatment of Disease. By J. P. Buckley, Ph. G., D. D. S., Professor and Head of the Department of Materia Medica, Pharmacology and Therapeutics, and formerly Director of the Chemical Laboratories, Chicago College of Dental Surgery. *Third Edition.* Revised and enlarged; 72 illustrations. Octavo. xiii+395 pages. Cloth, $2.50. Enlarged over second edition by 12 pages of text and 26 other illustrations. (Blakiston).

The printing of a third edition in twenty months after the first appearance of this book has enabled the author to make many alterations and corrections which enhance the value of his work. The greatest change has been made in the treatment of chronic alveolar abscess. Several new and original illustrations have been added.

DERMATOLOGY.

The Principles and Practice of Dermatology.—By William Allen Pusey, M. D., Professor of Dermatology in the University of Illinois. D. Appleton & Company, publishers. *Second Edition.* With 5 plates and 384 text illustrations. Cloth, $6.00 net.

The most recent additions to dermatological knowledge are embodied in the new 1911 edition of Dr. Pusey's work. The epochal discoveries and advances in the study of syphilis and particularly the application of the serum complement reaction test to the diagnosis of syphilis are given the fullest consideration. Many wholly new topics are introduced. Others, such as the therapeutic uses of radium, and pellagra and yaws, are completely revised. The work as a whole covers the field comprehensively and adequately. More space than usual is given to the principles of dermatology; and, because of its practical importance, general treatment especially has been considered in fullest detail.

Diseases of the Skin.—An outline of the Principles and Practice of Dermatology.—By Sir Malcolm Morris. *Fifth Edition.* 12mo, 777 pages, illustrated by 10 colored and 67 black and white plates. Price, muslin, $3.50 net. Published by Wm. Wood & Co., New York.

In the three years that have passed since the fourth edition of this manual was published, advances have been made in so many branches of Dermatology that the volume has had to undergo considerable revision. An attempt has been made to estimate the true place of salvarsan in the treatment of syphilis, and the serviceability and limitations of the Wassermann test. Some of the illustrations that appeared in earlier editions have been discarded, and many new plates have been included.

A Text-Book of Diseases of the Skin.—By J. H. Sequeira, M. D., F. R. C. P., F. R. C. S., Physician to the Skin Department and Lecturer on Dermatology at the London Hospital. With 44 plates in colors, reproduced direct from life, and about 179 other illustrations. Octavo. Cloth, $8.00. (Blakiston).

The author aims to provide the practitioner and student with a well illustrated text-book, including an account of all the most recent advances in the methods of diagnosis and treatment of diseases of the skin. A special feature is the arrangement of the subjects as far as is practicable according to their etiology. The illustrations, with few exceptions, are from photographs of the writer's own cases.

Diseases of the Skin, Including Radiotherapy and Radiumtherapy.—By Ernest Gaucher, Professor of Cutaneous and Syphilitic Diseases, Faculte de Medicine, Paris. Translated and edited by C. F. Marshall, M. D. D. Appleton & Company, publishers. Fully illustrated. Cloth, $5.00 net.

Professor Gaucher and other eminent French skin specialists have collaborated in this notable work. Besides covering thoroughly the general field of skin diseases, there are special chapters on Cutaneous Syphilides and the treatment of Syphilis. The most recent developments in Radiumtherapy and general Radiotherapy are described in full and the editor has added a chapter on Yaws.

An Introduction to Dermatology.—By Norman Walker. *Fifth Edition.* $4.00. Published by Wm. Wood & Co., New York.

This book describes fully all the more common diseases, and less completely those rare ones which the ordinary practitioner is likely to meet with; while those rare conditions which are mainly of interest to the specialist, have been omitted. The book is beautifully illustrated by 43 full-page colored plates and 79 engravings in the text.

DIETETICS (FOODS, NUTRITION, ETC.)

Foods and Their Adulteration.—The Origin, Manufacture, and Composition of Food Products, Infants' and Invalids' Foods. Detection of Common Adulterations and Food Standards. By Harvey W. Wiley, M. D., Chief Chemist, U. S. Department of Agriculture, Washington, D. C. *Second edition, revised.* With 11 colored plates and 87 other illustrations. Octavo. xii+ 641 pages. Cloth, $4.00. (Blakiston).

The author states in his preface that the text of the body of this work has been carefully revised and the statistical matter brought up to date. Many paragraphs have been entirely rewritten; two new sections of importance have been added, taking the place of the regulations for inspection and the rules and regulations for the enforcement of the Food and Drugs Act which appeared in the first printing. The article on Infants' and Invalids' Foods has been largely added to and an attempt made to describe in a practical way the preparation and care of foods of this class. Part XI is devoted to simple methods for detecting food adulterations, methods which may be practiced with some degree of success in the household.

Food and Feeding—In Health and Disease—A Manual of Practical Dietetics.—By Chalmers Watson. 8vo, 654 pages. $4.00 net. Published by Wm. Wood & Co., New York.

Describes the nature and functions of human food; explains digestion and metabolism and the role played by bacteria in the intestinal canal; estimates the amount of food which the normal man may profitably consume; passes on to discuss the nutritive properties of milk, eggs, fish, flesh, vegetables, and alcohol. In every case there is apart from the scientific exposition of the disease, a special reference to the effect of diet upon it, accompanied by a recipe or recipes, of the sort of food which the patient may be directed profitably to take, along with such drugs which medical science may prescribe.

Food and the Principles of Dietetics.—By Robert Hutchison. *Third Edition.* 8vo, 635 pages, illustrated by colored plates and many engravings in the text. $3.00. Published by Wm. Wood & Co., New York.

In the present edition the whole book has been revised and the chapters dealing with the use of dietetics in diseases considerably enlarged. A new chapter has been added which concerns dietetic cures and systems. The book was originally designed to meet the requirements of students and practitioners of medicine, but it has proven intelligible and interesting to others desiring to acquire some knowledge of foods and the difficult problems of nutrition.

Food Values, Practical Tables for Use in Private and Public Institutions.—By Edwin A. Locke, M. D., Instructor in Medicine, Harvard Medical School. D. Appleton & Company, publishers. Cloth, $1.25 net.

Dr. Locke has collected from many sources as exact information as possible regarding the composition and nutritive value of all common foods, and has arranged it in a form so simple that it can be readily applied to the every-day regulation of diets. With Locke's tables an ordinary helping of the common foods may be given and a proper estimate made of the percentages of proteids, carbohydrates, and calories. Actual weighing of the foods is not necessary. Cooked foods, rather than raw foods are used for food values.

Diet for the Sick.—Compiled and arranged by H. Edwin Lewis, M. D., and Other Members of the Editorial Staff of AMERICAN MEDICINE, New York City. Published by American Medical Publishing Co., 84 William St., New York City. Price, $1.00.

Although little or no claim is made for originality, it is believed that this book is so admirably arranged and condensed that it is one of the most useful works that the general practitioner can obtain. It gives a wealth of material in a form that permits of instant reference. It should in consequence be on every doctor's desk.

What Shall I Eat?—A Manual of Rational Feeding.—By Dr. F. X. Gouraud, formerly Chief of the Laboratory of the Faculty of Paris. With a preface by Professor Armand Gautier of Paris. Only authorized translation into the English language by F. J. Rebman. With a Glossary containing definitions of the principal technical terms, and an Index of Diseases referred to in the text. Cloth, $1.50. Rebman Co., 1123 Broadway, New York.

There are diet manuals galore, but we believe none has been put on the market of late which can compare with this volume. It is simple in style, excellent in arrangement and discusses thoroughly the subjects embraced in its title. It gives a clear analysis of each food stuff, its value, reactions, indications and contra-indications, and is in fact one of the most practical books written on the subject.

What to Eat and Why.—By G. Carroll Smith, M. D., of Boston, Mass. Octavo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $2.50 net.

With this book you no longer need send your patients to a specialist to be dieted—you will be able to prescribe the suitable diet yourself just as easily as you do other forms of therapy. Dr. Smith has made his book decidedly practical. After describing the fundamental elements of food and the principles underlying its use, he takes up the essential reasons *why* a change in diet in certain diseases is desirable and tells how to make this change in the most practical, time-saving, result-producing way. He gives special attention to "the why" of every statement. It is this *why* which gives you confidence in the book, because you can see that Dr. Smith *knows*.

Chemistry of Food and Nutrition.—12°, $1.50d. Cloth, viii+355 pp., index. By Henry C. Sherman, Ph. D., Professor in Columbia University. Published by The MacMillan Co., New York.

The purpose of this volume is to present the principles of the chemistry of food and nutrition with special reference to the food requirements of man and the considerations which should underlie our judgment of the nutritive values of food. The food is here considered chiefly in its nutritive relations.

DIAGNOSIS AND DIAGNOSTIC TECHNIC.

Clinical Diagnosis.—By Charles Phillips Emerson, A. B., M. D., Resident Physician, The Johns Hopkins Hospital, Associate in Medicine, The Johns Hopkins University. Octavo. 724 pages, 27 colored and 126 black and white illustrations. Cloth, $5.00. *Third Edition.* J. B. Lippincott Company, publishers, Philadelphia.

This is a text-book on clinical microscopy and chemistry for medical students, laboratory workers, and practitioners of medicine. The work is especially adapted for physicians, since it is written from the clinical point of view. It reports the entire clinical experience of the large Johns Hopkins Hospital, and it discusses the value of methods as well as giving the details of how to use them.

The work will be found a complete and trustworthy guide in all the details of laboratory work, written especially for practitioners who wish to give their patients the benefit of modern scientific methods in the diagnosis and treatment of disease—men who use the microscope, who examine sputum, and who use the stethoscope, and who appreciate a small laboratory as the most valuable stock in trade.

Differential Diagnosis.—Presented through an analysis of 383 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 753 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

Four printings of his work have been required in eight months—truly a remarkably successful book. Dr. Cabot's method of presenting his subject is like real medical practice; like your own work in the office and in your home visits. Each patient comes to you complaining of some particular symptom—headache, backache, cough, etc. These are the first things you get to work from. Dr. Cabot calls them the *presenting symptoms*. He has written his book from this point of view. He groups diseases under each symptom and works backwards and inwards from it to the disease behind it. He so details diagnosis that each case brings before your mind's eye a selected group of reasonably probable causes. Then he narrows down the causes until the correct cause is found. No other book tells you how to do this.

Diagnostic and Therapeutic Technic.—By Albert S. Morrow, M. D., Adjunct Professor of Surgery, New York Polyclinic. Octavo of 850 pages, with 815 original line drawings. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

Dr. Morrow's new work is decidedly a work for the physician engaged in general practice. It is a work he needs, because it tells him just how to perform those procedures required of him every day; and it tells him and *shows* him by clear, *new* line-drawings, in a way never before approached. It is really a *Minor Medicine*, dealing with those procedures which lie on the borderline between medicine and surgery. Operative methods have been omitted except in so far as emergency technic requires. The information given is such as you need to know every day—transfusion and infusion, hypodermic medication, Bier's hyperemia, collection and preservation of pathologic material, exploratory punctures, aspirations, anesthesia, etc. Then follows a description of those measures employed in the diagnosis and treatment of diseases of special regions or organs.

A Treatise on Diagnostic Methods of Examination.—By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M. D., Asst. Professor of Clinical Medicine, College of Physicians and Surgeons, New York. *Second Edition Reset.* Octavo of 1,229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.50 net; half morocco, $8.00 net.

So thorough has been the revision for this edition that it was found necessary practically to reset the entire work. Every line has received careful scrutiny, adding new matter, eliminating the old. Not only does this edition contain all the matter of the new fifth German edition, but Dr. Potter has added those methods which have proved of value in his own practice, making the book unusually well adapted to the needs of American practitioners. Long ago this book established itself as the standard work on diagnostic methods of examination. Its remarkable success in Germany has been duplicated in English-speaking countries.

A Text-Book of Medical Diagnosis.—By James M. Anders, M. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. Napoleon Boston, M. D., Adjunct Professor of Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1,195 pages, with 443 illustrations, 17 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.00 net; half morocco, $7.50 net.

The many new diagnostic signs described and illustrated in this book will prove of the greatest value to you. The *Kocher-Boston sign* in ophthalmic goiter, the *Wassermann-Noguchi* reaction, the ophthalmotuberculin, cutaneous tuberculin, and the other tuberculin reactions are all elaborately detailed. An entirely new feature in illustrating is the use of *moving pictures* to portray certain nervous diseases, where gait, attitude, head tic, etc., are the main diagnostic signs. Two other features consist in the *pathologic definitions* heading the diseases, and the tables of *differential diagnoses*.

Medical Diagnosis.—By J. C. Wilson, A. M., M. D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital. Octavo. 1,436 pages. 408 text illustrations and 14 full-page plates in colors and black. Cloth, $6.00. *Third edition.* J. B. Lippincott Company, publishers, Philadelphia.

This splendid volume combines in attractive form the data of physical and laboratory diagnosis with what is virtually a complete textbook on practice minus the sections on treatment. It is divided into four parts: I. Medical Diagnosis in General. II. Methods and Their Immediate Results. III. Symptoms and Signs. IV. Clinical Applications.

That a second edition of this work should be required in less than four months after its publication is gratifying both to the author and the publishers. In its revision important changes or additions have not been necessary, but minor corrections have been made, and some topics that were omitted have been supplied. The index, a most important part of a book, has been remade. The number of references is about doubled.

Clinical Symptomatology, With special reference to the Life-Threatening Symptoms and their Treatment.—By Alois Pick, Professor of Medicine in the University of Vienna, and Adolph Hecht, Pediatrician in St. Anne's Hospital, Vienna. American authorized edition, edited and translated by Karl Konrad Koessler, M. D., Rush Medical College, Chicago. D. Appleton & Company, publishers. Cloth, $6.00 net.

This work not only considers every general but every special symptom characteristic of each particular disease. It describes the symptomatology of diseases of the nervous system, digestive system, circulatory system, respiratory system, glandular system, genito-urinary system, etc., etc. It shows how to recognize, by simple means, complications and various symptoms which may render an accurate diagnosis comparatively easy.

A Manual of Physical Diagnosis.—By Brefney Rolph O'Reilly, M. D., C. M. Demonstrator in Clinical Medicine and in Pathology, University of Toronto; Assistant Physician to St. Michael's Hospital, Toronto, etc. With 6 plates (3 in colors) and 49 other illustrations, of which 6 are in colors. 12mo. xxi+369 pages. Flexible cloth, round corners, $2.00. (Blakiston).

The author has succeeded in epitomizing the various physical methods employed in diagnosis. The matter is excellently arranged, the type and illustrations clear and distinct. Special importance has been laid upon inspection, it being the author's belief that one who has trained himself to observe with the eye can accomplish far more than one who has been taught to rely too much upon instruments of precision for every point in diagnosis. The author emphasizes the importance of regarding the patient as a personality rather than a mere physiological or pathological problem.

Pain: Its Causation and Diagnostic Significance in Internal Diseases. *Second Edition.*—By Rudolph Schmidt, Physician to the Royal Empress Elizabeth Hospital, Vienna. Translated and edited from the second large and revised German edition by Karl M. Vogel, Assistant Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, and Hans Zinsser, A. M., M. D., Professor of Bacteriology, Leland Stanford Junior University. Octavo. 356 pages. 18 full-page plates in two colors. Cloth, $3.00. J. B. Lippincott Company, publishers, Philadelphia.

This is an accurate and thorough analysis of the various painful sensations, their mode of causation and correct interpretation. The author discusses the manner in which they are affected by positions of the body, remedial agents, functions of organs, their topography, and especially their relation to the different diseases in their diagnostic indications, introducing here and there short case histories bearing on the topics under consideration, while in the chapter on headache and gastralgia the subject is treated more broadly and at greater length.

Serum Diagnosis of Syphilis and the Butyric Acid Test for Syphilis.—By Hideyo Noguchi, M. D., M. Sc., Associate Member of the Rockefeller Institute for Medical Research, New York. Crown octavo. 173 pages. 14 illustrations. Cloth, $2.50. *Second Edition.* J. B. Lippincott Company, publishers, Philadelphia.

The subject matter has been so treated as to make it suitable for the use of practicing physicians, students and laboratory workers. It is extremely clear and practical, all the details being illustrated, and, where necessary or desirable, colors have been used. Laboratory directions are explicit, both for performing the test and for preparing reagents and preserving them, immunizing the animals, etc.

Essentials of Laboratory Diagnosis.—For Practitioners and Students. By Francis Ashley Faught, M. D., Director of the Laboratory of the Dept. of Clinical Medicine, Medico-Chirurgical College, Philadelphia. *Third Edition.* Copiously illustrated. Crown octavo. Flexible cloth. 335 pages. Price net, $2.00. F. A. Davis Co., Philadelphia.

Dr. Faught's extensive experience in laboratory work made the success of his book a foregone conclusion among his associates, but few could have anticipated the extent of the demand for it.

This snug, compact, thoroughly modern little treatise proved to be just the one thing needful to a great many thousands of wide-awake students and practitioners. For the excellent library of books a little old the Essentials is a remarkable vitalizer and rejuvenator. Probably no better two dollars' worth is being offered just at present to medical men.

DICTIONARIES.

A Practical Medical Dictionary.—By Thomas L. Stedman. Royal 8vo, 1,012 double-column pages, illustrated. Flex. mor., plain edge, $4.50. Thumb-indexed, $5.00. Published by Wm. Wood & Co., New York.

Stedman's Dictionary includes the following features, some of them entirely novel: It gives the derivation of all words (when known) from the Anglo-Saxon as well as Latin and Greek. Pronunciation is indicated whenever it is not self-evident, and accent marked in all the main titles and in most of the subtitles. Tables of all the large (i. e., numerous) anatomical structures, such as arteries, muscles, nerves, sulci, convolutions, foramina, fossae, and pharmaceutical preparations, such as acids, tinctures, etc. These are not given in tabular form across the page so as to confuse one in searching for words, but are run along in columns in alphabetical order, distinguished by different type. Other tables, such as of the elements with their symbols and anatomic weights, thermometer scales, weights and measures, etc., are placed in the Appendix (with reference thereto under the catch-word in the body of the dictionary), thus not interfering with one's convenience in looking for words. Besides the regular medical terms this dictionary includes: dental terms; chemical terms; veterinary terms; botanical terms; insurance terms; homeopathic terms; eclectic terms; biographical data (nationality, date of birth and death with eponymic terms) all the (BNA) terms are indicated. All the preparations of the United States and British Pharmacopias and National Formulary. Chemical symbols are given with the names of acids, salts, etc., and also entered as main titles referring back to the full name. It also includes mineral springs, giving pronunciation of place (if foreign), country, character of the water, and indications for its use; Thesaurus, that is, defining back from the English or popular terms to the scientific. Words which should begin with a capital are so printed. The spelling of U. S. P. is used.

American Illustrated Medical Dictionary.—A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Medicine, Nursing, Biology, and kindred branches; with new and elaborate tables. *Sixth Revised Edition.* Edited by W. A. Newman Dorland, M. D. Large octavo of 986 pages, with 323 illustrations, 119 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, $4.50 net; thumb indexed, $5.00 net.

Over 5,000 copies of this edition have been sold in three months. This success is due to the fact that this revision means much more than is implied by "new edition." It means a *new work* in every sense. Every word has been carefully scrutinized with a view to accuracy in pronunciation, etymology, and definition, and the entire book reset from A to Z. To keep the volume within bounds and preserve its value as a desk reference work, provision was made for the vast number of important new words added—*well over 7,000*—by selecting a type which, while even more legible than the old, permitted of 12 lines more to the page.

Lippincott's New Medical Dictionary.—By Henry W. Cattell, A. M. (Laf.), M. D. (U. of P.), Editor of *International Clinics*, Fellow of the College of Physicians of Philadelphia, etc. Octavo. 1,103 pages. Freely illustrated with figures in the text. Flexible leather, thumb indexed, $5.00 net. J. B. Lippincott Company, publishers, Philadelphia.

Lippincott's New Medical Dictionary is absolutely indispensable to the medical and scientific man. It does not stop at furnishing spelling, definition, and the derivation of words and giving references to the closely allied topics, but it is the only Medical Dictionary that is a complete guide to capitalization and hyphenation. The illustrations are not grouped, but all in the text in their vocabulary places.

The definitions have been kept as concise as is consistent with clearness and accuracy. Much matter of an encyclopedic and descriptive nature has been added; under the chief diseases, some account of their symptoms, etiology, and treatment; under the drugs, their action, therapeutic use, and dose, the latter in both the metric system and the common equivalent; and under the anatomical parts, an outline of their structure and function.

The arrangement of the words is strictly alphabetical. All the B N A terms, whether in the vocabulary or not, are also indicated by an asterisk (*), there being no danger of confusion between terms belonging to the Pharmacopia and those to Anatomy.

American Pocket Medical Dictionary.—Edited by W. A. Newman Dorland, M. D., editor "Dorland's American Illustrated Medical Dictionary." *Seventh Edition.* 32mo. of 610 pages. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, gold edges, $1.00 net; thumb indexed, $1.25 net.

Each edition of this successful pocket lexicon secures a wider field of usefulness. For this edition the work has been painstakingly revised and many hundreds of new words added, most of which you will not find in any other book of its class. Following the table of doses for man, a veterinary dose table has been added.

The Pocket Pronouncing Medical Lexicon.—34,000 Medical Words. By George M. Gould, A. M., M. D. *Sixth Edition.* 64mo (6x3¾ inches); 1,005 pages. Full limp leather, gilt edges, rounded corners, $1.00; thumb indexed, $1.25. (Blakiston).

This new edition of Dr. Gould's Pocket Medical Dictionary has been thoroughly revised, the whole book having been reset, many obsolete words have been omitted and a large number of the newer medical terms included. About 10,000 copies of this edition have already been sold in the few months of its life.

GENITO-URINARY DISEASES.

Diseases of the Genito-Urinary Organs.—By Edward L. Keyes, Jr., M. D., Professor of Genito-Urinary Surgery, New York University and Bellevue Medical College. D. Appleton & Company, publishers. Seven plates and 195 other illustrations. Cloth, $6.00 net.

Dr. Keyes' volume considers from both medical and surgical standpoints the diseases of the urinary organs, and syphilis. There is further a description of gonorrhea in the female and conditions peculiar to the female genital organs. The work will show the practitioner how far his own knowledge should carry him in the diagnosis and treatment of diseases of the genito-urinary tract, and in how far he must depend upon the more special training of the urology expert in the use of such instruments as the cystoscope and ureter catheter.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder.—By Paul M. Pilcher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The work is complete in every detail, describing the types and construction of the instruments, their care, preparation for their use in the home and in your office, and—most important of all—the technic of actual application in the *diagnosis* and *treatment* of diseases of the bladder, kidneys, ureters and prostate.

Enlargement of the Prostate. Its Treatment and Radical Cure.—By C. W. Mansell Moullin, M. A., M. D. (Oxon.), F. R. C. S.; Surgeon and Lecturer on Physiology to the London Hospital. Illustrated. *Fourth Edition Revised.* Octavo. ix+176 pages. Cloth, $1.75. (Blakiston).

The fourth edition of Moullin's well known treatise on the prostate differs from previous editions in that the details of the various methods of operation have been omitted, save as they represent procedures employed by the author, who believes now as he did years ago that in the vast majority of cases a comparatively simple operation will prevent all the consequences caused by enlargement of the prostate.

GYNECOLOGY.

A Text-Book of Practical Gynecology.—By Edward E. Montgomery, M. D., Professor of Gynecology in Jefferson Medical College, Philadelphia; Gynecologist to the Jefferson and St. Joseph's Hospitals, etc. *Fourth Edition.* Rearranged. Thoroughly revised and in part rewritten. With 583 illustrations, many of which are new. Octavo. Cloth, $6.00. (Blakiston).

This new edition has been very carefully revised throughout, many parts have been rewritten and the book has been rearranged in order to bring it in accord with modern methods. A number of new illustrations have been added, most of which have been made from special drawings.

A Manual of Gynecology.—By Thomas Watts Eden, M. D., C. M. Edin., F. R. C. P. Lond. Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital, London, etc. With 272 illustrations. Octavo. xxii+632 pages. Cloth, $5.00. (Blakiston).

The object of the author has been to provide students and practitioners with a manual containing a complete but not an exhaustive account of the diseases of women and their pathological and clinical aspects. The illustrations have been made in great part from material taken from the author's own clinical work. The general arrangement of the book is clinical and practical. The reviewer in the London *Lancet* said: "This work is by far the best manual on Gynecology of its size which has yet been written."

Compend of Gynecology.—By Wm. H. Wells, M. D., Associate in Obstetrics, Jefferson Medical College, Philadelphia. *Fourth Edition, Revised.* With 153 illustrations. 12mo. xix+290 pages. Blakiston's (Quiz Compend) Series. Cloth, $1.00; interleaved for the addition of notes, $1.25. (Blakiston).

This work is adapted to the use of students and physicians who desire brevity and an accurate review of anatomy, physiology and therapy, both medical and surgical. The number of editions through which it has passed speaks for its popularity and worth. It contains all that a student is likely to use and will prove helpful to those who have to take the State Board or other examinations. Numerous tables of differential diagnosis constitute an important feature of the book.

Vaginal Celiotomy.—By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages, with 148 illus-

trations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net; half morocco, $6.50 net.

The vaginal route, because of its simplicity, ease of execution, absence of shock, more certain results, and the opportunity for conservative measures, constitutes a field which should appeal most strongly to all surgeons, gynecologists, and obstetricians. Dr. Bandler shows by original illustrations the various steps in these operations.

A Text-Book of Practical Gynecology.—For Practitioners and Students. By D. Tod Gilliam, M. D., Emeritus Professor of Gynecology at the Starling-Ohio Medical College. *Fourth Edition.* Nearly 400 illustrations. 642 royal octavo pages. Price, cloth, net $5.00; half-Russia, $6.50. F. A. Davis Company, Philadelphia.

A "safe and sane" text-book on Medical and Surgical Gynecology. The term medical is given priority over the word surgical designedly. Dr. Gilliam is a conservative man and his book follows the bent of his mind. There is, however, no suggestion of prejudice against the employment of surgical technique when indicated.

A peculiarly valuable feature of this work is the arrangement of "Regional Symptoms" and their diagnostic significance. This section is worth the price of the book to the hurried clinical man.

HYGIENE AND SANITATION (METEOROLOGY, ETC.)

Hygiene and Public Health. A Practical Manual.—By Louis C. Parkes, M. D., D. P. H. (Lond. Univ.); Consulting Sanitary Advisor to His Majesty's Office of Works; Medical Officer of Health, Borough of Chelsea, London, etc., and Henry Kenwood, M. B., Professor of Hygiene, University of London, etc. *Fourth Edition, Revised.* Two plates and 86 other illustrations. 12mo. xi+691 pages. Cloth, $3.50. (Blakiston).

The following synopsis of contents indicates the scope and character of this very successful manual, which has already passed into its fifth edition:

Water—Collection, Removal and Disposal of Excretal and Other Refuse; Air and Ventilation—Warming and Lighting; Soils and Building Sites—Climate and Meteorology; Exercise and Clothing—Food, Beverages and Condiments; The Contagia-Communicable Diseases and Their Prevention—Hospitals, School Hygiene, Disinfection, Statistics, Sanitary Law and Administration.

The Reduction of Domestic Mosquitos. Instructions for the Use of Municipalities, Town Councils, Health Officers, Sanitary Inspectors and Residents of Warm Climates. By Edward Halford Ross, M. R. C. S., England, L. R. C. P., London; Health Officer, Port Said and Suez Canal District. 18 illustrations. Octavo. Cloth, $1.75. (Blakiston).

The author deals with the subject in twelve chapters: The Importance of Domestic Mosquitos; The Life and Habits of Domestic Mosquitos; The Fever Census; Estimating the Cost of Mosquito Reduction; Ways and Means; Preliminaries; The Starting of the Mosquito Campaign; Progress; Mosquito Reduction; Reporting Progress; Finance; Results.

Meteorology, Practical and Applied.—By Sir John William Moore, M. D., D. Sc., etc. *Second Edition,* revised and enlarged. With many illustrations. Cloth, $3.00. Rebman Company, 1123 Broadway, New York.

The question of the influence of climate upon man is dealt with. Two chapters are devoted to the discussion of the influence of season and weather on acute infectious diseases of the most ordinary kind, thus rendering it of value to others than the climatologist and weather man.

The Prevention of Infectious Diseases.—By Alva H. Doty, M. D., Health Officer of the Port of New York. Published by D. Appleton & Company. Cloth, $2.50 net.

The methods of disinfection and sanitation in use by Dr. Doty, who for years has been saving New York from the spread of infectious diseases, are fully described in his book and give it great practical value to health officers, to the medical profession at large, and to all who are interested in the preservation of the public health. We find in this work, in succinct form, the latest knowledge relative to the transmission of infectious diseases and careful outlines of the methods and means by which this may be prevented.

MATERIA MEDICA AND THERAPEUTICS.

Handbook of Medical Treatment—A Guide to Therapeutics for Students and Practitioners—With an Appendix on Diet.—By James Burnett, M. A., M. D., M. R. C. P., Edinburgh. 16mo, 168 pages. Cloth, $1.50 net. Published by Wm. Wood & Co., New York.

This is an attempt to supply the main facts of medical treatment within the compass of a small volume convenient to handle and to carry about. Purely surgical and gynecological affections have been entirely omitted. Due attention has been paid to diet as an aid to treatment. There is a table showing the difference in dosage of the chief standardized and potent preparations of the British Pharmacopia and the U. S. P.

Carbonic Acid Snow—As a Therapeutic Agent in the Treatment of Diseases of the Skin.—By R. Cranston Low, M. B., F. R. C. P. 8vo, 117 pages, 16 plates. $1.50 net. Published by Wm. Wood & Co., New York.

Refrigeration by means of carbonic dioxide snow can be easily employed by the general practitioner, and the present volume aims at giving him the information which will enable him to carry it out successfully. A description of the methods of application is given, and the results obtained in the various diseases are indicated.

Radium—Its Physics and Therapeutics.—By Dawson Turner. 12mo, 96 pages, 12 plates. $1.75. Published by Wm. Wood & Co., New York.

In this volume an attempt has been made to supply in a concise form a small manual suitable for medical men. The writings of the greatest authorities have been largely used throughout the work.

The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamidoarsenobenzol).—By Dr. Johannes Bresler, Physician-in-Chief of the Provincial Asylum at Lubeck. Translated by Dr. M. D. Eder, who has added an Appendix. *Second Edition*, much enlarged, with portraits of Ehrlich and Schaudinn. Cloth, $1.00. Rebman Company, 1123 Broadway, New York.

The physician who wishes the real history of "606" or Salvarsan with an account of what has been accomplished with it and the indications for its use, will find just what he is seeking in this volume. It bears the imprimatur of Ehrlich.

Theory and Practice of Thyroid Therapy.—A Book for General Practitioners. By Herbert Ewan Waller. 8vo, 166 pages. Muslin, $2.00 net. Published by Wm. Wood & Co., New York.

This work gives some experiences of the results of thyroid medication, with deductions concerning the influence of thyroid secretion in health and disease, and certain effects of drugs and various circumstances upon thyroid secretion.

An Introduction to Therapeutic Inoculation. By D. W. Carmalt Jones, M. A., M. D. (Oxon.), M. R. C. P. (Lond.), Assistant Physician, and Director of the Department of Bacterio-therapeutics, Westminster Hospital. 12°, $1.25z. Cloth, xiii+165 pp., appendix, index, diagrams, by mail, $1.35. Published by The MacMillan Co., New York.

Clinical Immunity and Sero-Diagnosis.—By A. Wolff-Eisner. Translated by Ray W. Matson. Revised and edited, with a special introduction, by the author. 8vo, 198 pages. Muslin, $2.50 net. Published by Wm. Wood & Co., New York.

This work is the first attempt to establish a connection, previously lacking, between biology on the one hand, and the clinic on the other.

No. 606, Ehrlich-Hata.—By Dr. W. Wechselman. With an introduction by Dr. P. Ehrlich. Only authorized translation by Abr. L. Wolbarst, M. D., New York. With 16 plates in color, 8 x 10½ inches. Cloth, $5.00. Rebman Company, 1123 Broadway, New York.

The author of this book is the man who has done practically all the clinical work for Ehrlich and who knows more about the clinical value of "606" than most men. He tells all there is to be told about the subject. To make the volume still more valuable, an appendix by Dr. Wolbarst has just been added, which brings the literature up to the most recent date.

The Experimental Chemico-Therapy of the Spirillae (Syphilis, Relapsing Fever, Yaws, etc.).—By Prof. Dr. Paul Ehrlich of Frankfort A. M., and Dr. S. Hata. With contributions by Drs. H. T. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Cairo, and Dreyer, Cairo. With 27 illustrations in the text and 5 plates. Price, $4.00. Rebman Company, 1123 Broadway, New York.

This is an authoritative statement of the work leading to the introduction of salvarsan. It concerns itself very largely with experimental animal inoculation and takes up in detail experiments made by Hata upon mice with relapsing fever, with spirillosis and fowls and other animals and with syphilis in rabbits. The volume is entitled to the highest consideration and is worthy of careful reading.

MEDICAL PRACTICE (GENERAL MEDICINE).

Practical Treatment. In three volumes.—By 82 eminent specialists. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M. D., late Assistant Professor of Medicine, University of Pennsylvania. Volume I: Octavo of 909 pages, illustrated. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume: Cloth, $6.00 net; half morocco, $7.50 net.

Musser and Kelly's Treatment is the most complete, the most practical, the most authoritative work on Treatment ever published. Its authors are the world's leaders in the medical field. Musser-Kelly is the last word. Volume III ready January 1st.

The Practice of Medicine. *Ninth Edition.* By Frederick Taylor, M. D., F. R. C. P., Consulting Physician to Guy's Hospital; Examiner in Medicine at the University of Cambridge and at the Queen's University, Belfast. Sold only by subscription. Ill., 8°, $6.00. Cloth, xvi +1,121 pp., index, carriage extra. Published by The MacMillan Co., New York.

A Text-Book of the Practice of Medicine.—By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. *Tenth Revised Edition.* Octavo of 1,328 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net; half morocco, $7.00 net.

The conditions newly discussed are: Abortive type of plague, masked chlorosis, polycythemia hypertonica, blocked pleurisy, angina major, minor and abdominis, hour-glass stomach, heat cramps, serous meningitis, tic, and psychasthenia. The new and rewritten matter includes: Chantemesse's serum in typhoid fever, Brudzinski's sign in cerebrospinal meningitis, tonsillectomy in acute articular rheumatism, Falk and Tedesko's test in chronic tuberculosis, artificial pneumothorax in pulmonary tuberculosis, Nastin treatment of leprosy, Ehrlich's remedy in sleeping sickness, salvarsan ("606") in syphilis and in malaria, Bass's

method of examining feces in uncinariasis, Wassermann's reaction in syphilis, autoserotherapy in serofibrinous pleurisy, Holmgren's treatment of serofibrinous pleurisy, Broadbent's sign in aortic regurgitation, Oertel cure in chronic myocarditis, glycyltryptophan test in cancer of stomach, Goodman's modification of Solomon's test in cancer of stomach, Boas's method of diagnosis in intestinal catarrh, autoserotherapy in ascites, Boston's test for albuminuria, Schapira's test for permeability of kidney, anterior poliomyelitis, aphasia and cerebral palsies of children.

A Text-Book of Medicine.—By Dr. Adolph von Strümpell, Professor of Special Pathology and Therapeutics at the University of Leipsic. Fourth American edition translated by permission from the seventeenth revised German edition. With six plates, two of which are in color, and 223 illustrations in the text. With editorial notes by Herman F. Vickery, M. D., Instructor in Clinical Medicine, Harvard University, and Philip Coombs Knapp, M. D., Clinical Instructor in Diseases of the Nervous System, Harvard University. D. Appleton & Company, publishers. Two volumes. Cloth, $12.00 net.

Ten years have elapsed since the last American edition of Strümpell's masterpiece was issued. It has been necessary, therefore, to make an entirely new translation. The work is thoroughly up to date and is a reliable survey of the present status of internal medicine. Strümpell's vast clinical experience, his wide knowledge and sound judgment, his familiarity with the great progress in all branches of internal medicine, his clearness of exposition, make his work of value and importance to the practicing physician.

Practice of Medicine.—*Tenth Edition*, thoroughly revised and enlarged by R. J. E. Scott, M. A., B. C. L., M. D.; Attending Physician to the Demilt Dispensary, New York; Author of "The State Board Examination Series," etc. With 63 illustrations. 12mo. xviii+878 pages. The Leather-bound Series of Manuals. Full limp leather, gilt edges, round corners, $2.50. (Blakiston).

Several new sections have been added, such as Pellagra, Glandular Fever, Foul Breath, Cammidge's Reaction, Paralysis of the Laryngeal Muscles. The book, as a whole, has been thoroughly revised; much of it has been rewritten. Sections that were obsolete or unnecessary have been omitted. It contains 100 pages of reading matter more than the previous edition and a more complete index. Some of the older prescriptions have been discarded and many new ones introduced. The sections on Treatment are more complete and the prescriptions more numerous than in any other similar work. Numerous tables of Differential Diagnosis have been included and summaries have been incorporated into the text.

A Manual of Practice of Medicine.—By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. *Ninth Edition, Revised.* 12mo of 573 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, $2.50 net.

The sections on dysentery, acute pancreatitis, rheumatic fever, dengue, rheumatoid arthritis, purpuras, aphasia, myelitis, acute anterior poliomyelitis, and disseminated sclerosis have been wholly rewritten, and articles dealing with acute dilatation of the stomach, mucous colitis, sprue, suppurative cholangitis, beri-beri, Malta fever, sleeping sickness, plague, and pellagra have been added.

Arthritis.—A Study of the Inflammatory Diseases of the Joints.—By Peter Daniel. Edited by James Cantlie. 12mo, 523 pages, profusely illustrated. Muslin, $4.00 net. Published by Wm. Wood & Co., New York.

This little work covers the subject very thoroughly, treating all inflammatory diseases of joints; synovitis; arthritis; sprains; gout; osteo-arthritis; Still's disease; gonorrheal arthritis; Charcot's disease, etc.; hemophilic joints; internal derangement of joints; tuberculosis; conservative treatment; Bier's method.

Tropical Medicine.—Studies in Laboratory Work.—By C. W. Daniels, M. R. C. P., Lecturer on Tropical Diseases at the London Hospital, formerly Superintendent of the London School of Tropical Medicine, etc. *Third Edition, Revised and Enlarged.* Six colored plates containing 79 figures and 164 other illustrations. Octavo xv+535 pages. Cloth, $4.00. (Blakiston).

This is a short practical guide for laboratory work in tropical medicine for those who do not have all the laboratory accessories within easy reach. A great variety of subjects are fully treated. The colored plates will be found exceedingly valuable.

Amebic or Tropical Dysentery—Its Complications and Treatment.—By W. Carnegie Brown. Small 4to, illustrated. $3.00 net. Published by Wm. Wood & Co., New York.

The etiology of Dysentery has undergone radical changes in recent times, notably the discovery that Dysentery is not a single disease. This work treats the topic very thoroughly, and is essentially practical.

Diseases of the Lungs and Pleurae, Including Tuberculosis and Mediastinal Growths.—By Sir R. Douglas Powell, Bart.; K. O. V. O., M. D., Lond.; Physician in Ordinary to H. M. The King, Consulting Physician to the Middlesex Hospital; and P. Horton Smith Hartley, M. D., M. V. O., M. A. Cantab.; Physician to the Hospital for Consumption and Diseases of the Chest at Brampton. *Fifth Edition.* With 29 plates (6 in colors) and 53 other illustrations. Octavo xxviii+712 pages. Cloth, $6.00. (Blakiston).

A thoroughly modern and dependable work, giving a good insight into tuberculosis and diseases of organs associated with the lungs.

Pleurisy, Including Empyema and Bronchiectatic Conditions.—By Alex. James. Index.

8vo, 252 pages, illustrated. Price, muslin, $2.25 net. Published by Wm. Wood & Co., New York.

It considers etiology of pleurisy, anatomical and physical considerations; etiology of pleurisy, predisposing causes, exciting causes; symptoms and physical signs of pleurisy, in general and in detail; pleurisy associated with new growths on the pleura. Malignant pleurisy; empyema, special symptoms and signs; natural methods of cure; empyema and bronchietatic conditions; empyema in usual situations; fetid, putrid and gangrenous effusions; pulsating empyema; phthisical empyema; streptothrix and leptothrix empyema; treatment of pleurisy and empyema.

Physiological Principles in Treatment.—By W. Langdon Brown. *Second Edition.* 12mo, 400 pages. $2.25. Published by Wm. Wood & Co., New York.

In this edition the sections on movements of the stomach, endogenous purins, intestinal intoxications, and irregular action of the heart, have been more or less rewritten, and the book is larger than previously.

A Text-Book of Medicine.—By Georges Dieulafoy, Professor of Clinical Medicine, Faculte de Medecine, Paris. Authorized translation by E. V. Collins, M. D., and J. A. Liebman, Ph. D. Published by D. Appleton & Company. Two volumes, cloth, $12.00 net.

Dieulafoy represents the clinician of a galaxy of famous names in Paris. His "Practice of Medicine" has been translated into all languages on the Continent and has had a sale of fifteen editions—of over one hundred thousand copies. But this is the first appearance in English. The work, as a whole, is characterized by refreshing dogmatism. A man of Dieulafoy's renown may lay down the law. His treatments are direct and of single purpose.

The Internal Secretions and the Principles of Medicine (two volumes).—By Chas. E. deM. Sajous, M. D., LL. D. *Fourth Revised Edition.* Royal octavo. 1,875 pages. Illustrated. Price of the two volumes, cloth $12.00 net, half-morocco $15.00 net. F. A. Davis Co., Philadelphia.

The Fourth Revised Edition of Dr. Sajous's remarkable work shows plainly the modelling touch of recent events. Experiments in the laboratories in this country and abroad have gone far to confirm the author's conception of a method of cure based upon the augmentation by accurate therapy of the patient's natural powers of immunity. To accomplish the most for the patient with the least handicap to his natural restorative powers is the keynote of Dr. Sajous's great work. These two volumes point the way to the new era of medicine just dawning.

Diseases of the Digestive Canal, Esophagus, Stomach, Intestines.—By Dr. Paul Cohnheim, Specialist in Diseases of the Stomach and Intestine in Berlin. *Second Edition.* From the second German edition. Edited and translated by Dudley Fulton, M. D., Assistant Professor of Principles and Practice of Medicine, University of California College of Medicine, Los Angeles Department; Attending Physician Los Angeles County Hospital. Octavo, 383 pages, 83 illustrations. Cloth, $4.00. Publishers, J. B. Lippincott Company, Philadelphia, Pa.

The most distinctive feature of this volume is the discussion of the subject-matter purely from the clinical point of view, the entire work dealing with those methods which clinical experience has shown to be of working value in diagnosis and treatment of diseases of the digestive canal.

This edition emphasizes the increasing value of skiagraphy; gives recent improvements and methods of diagnosing lesions of the esophagus, the discussion of the acute dilatation of the stomach; treatment of gastric and duodenal hemorrhage, and the technic of the sigmoidoscopy.

Diseases of the Stomach.—By Max Einhorn. *Fifth Revised Edition.* 8vo, 547 pages, illustrated. Cloth, $3.50 net. Published by Wm. Wood & Co., New York.

While the plan of the book has remained the same, the text has been thoroughly revised and several additions made. Radiography is treated at length. The medical profession has accorded a most flattering reception to the four preceding editions and we are confident the increasing interest in this subject will cause the present edition to be most welcome.

Vicious Circles in Disease.—By Jamieson B. Hurry, M. A., M. D. (Cantab.), Ex-President Reading Pathological Society. With 10 illustrations. Octavo. xiv+186 pages. Cloth, gilt edges, $2.00. (Blakiston).

Lateral Curvature of the Spine and Flat-Foot and Their Treatment by Exercises.—By J. Skellett Smith. 8vo, 149 pages, coated paper, 82 engravings. Cloth, $2.00 net. Published by Wm. Wood & Co., New York.

The chief object of this book is to indicate in a clear and concise manner the steps necessary for the treatment of those cases of spinal curvature which are most likely to present themselves in general practice. Contents: Introductory; occurrence, causes; analysis of the deformity; examination of the spine, classification of cases, types of patients and general directions; the creeping exercises, supplementary exercises; the straight work exercises; weak ankles and flat-foot; exercises of flat-foot; anemia and iron, cod liver oil, olive oil and petroleum.

Syphilis—Its Diagnosis and Treatment.—By Col. F. J. Lambkin. 8mo, 201 pages. $2.25. Published by Wm. Wood & Co., New York.

The army affords an unequalled opportunity for estimating the value of any measures of treatment directed against the disease. Colonel Lambkin's experience has been so exceptional that it may be claimed for him that in a department of practice in which he has devoted the best years of his life he speaks with an

authority which we cannot lightly put aside. A section is included on the Ehrlich-Hata—No. 606 Treatment.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

Medico-Legal Aspects of Moral Offenses.—By L. Thoinot, M. D., Professor in the Medical Faculty of Paris. Translated from the original French and enlarged by Arthur W. Weysse, A. M., Ph. D. (Harvard), M. D., (Basel), Professor in Boston University. Illustrated with 17 engravings, including four charts and diagrams. Only authorized translation into English. Crown octavo, 487 pages. Extra cloth, $3.00 net. F. A. Davis Co., Philadelphia.

A book for the physician who may be brought in professional contact with a case involving moral offense. In such instances a reference work is not only indispensable but unless sound and practical is worse than useless. This volume, while reasonable in price, reflects in great detail the established medical jurisprudence of France and England and has been adapted with much skill to the Criminal codes of the States. Useful to the physician and attorney alike.

Manual of Toxicology.—By R. A. Witthaus. Being Vol. IV of Witthaus & Becker's Medical Jurisprudence. Octavo, 1,271 pages. Cloth, $7.00; sheep, $8.00. Published by Wm. Wood & Co., New York.

The subject of Toxicology, the science of Poisons, is a most important one, and of interest to physicians, chemists and lawyers. Toxic effects, moreover, are produced by a great number of substances under varying circumstances, quite independent of the realm of the criminologist; far too many of the arts and trades of civilization are attended by toxic results of the gravest importance. The author is probably better qualified than anyone else to have produced a book on this subject, having devoted the major part of his life to the study of chemistry and poisons, and to the art of the detection of the latter.

Medical Jurisprudence and Toxicology.—A Text-book for Medical and Legal Practitioners and Students. By John J. Reese, M. D., formerly Professor of the Principles and Practice of Medical Jurisprudence, including Toxicology, in the University of Pennsylvania. *Eighth Edition*, revised and edited by D. J. McCarthy, A. B., M. D., Professor of Medical Jurisprudence in the University of Pennsylvania. 12 mo. ix+660 pages. Cloth, $3.00. (Blakiston).

This is a new edition of a text-book which has been most popular during the past few years. It was formerly edited by Dr. Henry Leffman. This revision has been made by Dr. McCarthy.

Memoranda on Poisons and Their Antidotes.—By Thomas Hawkes Tanner, M. D. *Eleventh Edition*, revised by Henry Leffmann, M. D., Professor of Chemistry, Woman's Medical College of Penna. 16mo, 167 pages. Cloth, 75c. (Blakiston).

The editor has inserted considerable new matter, including notes of several of the synthetics used as substitutes for morphin. The toxicology of poisonous food has been presented as fully as the concise character of the book allows.

Accidental Injuries to Workmen.—With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F. R. C. S., Surgeon, Cripples' Home, Belfast; Author of "Legal Responsibility of the Drunkard," etc. With article on "Injuries of the Organs of Special Sense," by Cecil E. Shaw, M. A., M. Ch., M. D., and Legal Introduction by Thomas J. Campbell, M. A., LL. B., Barrister-at-Law. Cloth, $2.50. Rebman Company, 1123 Broadway, New York.

Of inestimable value to the physician, who represents in his professional capacity, corporation or persons engaged in manufacturing or other dangerous pursuits in which employees are likely to be injured by machinery or the hazards of the business. The work shows what constitutes an accident, including the occupational diseases which may by the law be termed accidents. It teaches how to prepare and arrange the facts for presentation to a court and in every way gives the physician the information he requires on this subject.

NERVOUS AND MENTAL DISEASES.

Nervous and Mental Diseases.—By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., Professor of Psychiatry, Columbia University. *Seventh Edition, revised.* Octavo volume of 932 pages, with 338 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net; half morocco, $6.50 net.

For this edition in the nervous section alone over one hundred and fifty interpolations have been made and in addition well over three hundred minor corrections. The chapters on meningitis, aphasia, poliomyelitis, pellagra and pituitary diseases have been practically rewritten. A chapter on Oppenheim's congenital amyatonia has been introduced. The section on mental diseases has been wholly rearranged to conform to the latest classification, some obsolete matter struck out and much new matter added. This seventh edition embodies every substantial advance.

The Conquest of Nerves.—By J. W. Courtney, M. D. 12°, $1.25a. Cloth, gilt top, vi+209 pp., index, by mail, $1.32. Pub. by The MacMillan Co., New York.

The Feeble-Minded.—A Guide to Study and Practice. By E. B. Sherlock, M. D., B. Sc., Lond., D. P. H. Barrister-at-Law, formerly Superintendent of the Belmont Asylum for Idiots, and Lecturer on Biology in the Westminster Hospital Medical School. With an Introductory Note by Sir H. B. Donkin, M. D. Oxon., F. R. C. P. Lond., Medical Adviser to the Prison Commissioners, Member of the Prisons Board. Ill., 8°, $3.00z. Cloth, xx+327 pp.,

indexes, by mail, $3.15. Published by The MacMillan Co., New York.

An important contribution to the literature on the subject of insanity and kindred diseases.

Conduct and Its Disorders Biologically Considered.—By Charles Arthur Mercier, M. D., F. R. C. P., F. R. C. S., Physician for Mental Diseases to Charing Cross Hospital; Author of "A Text-book of Insanity," "Criminal Responsibility," etc., etc. 8°, $3.25z. Cloth, xxiii+ 377 pp., index, by mail, $3.42. Published by The MacMillan Co., New York.

Neurasthenia.—By Gilbert Ballet. Translated by P. Campbell Smith. 8vo, 422 pages, illustrated. Cloth, $3.00. Published by Wm. Wood & Co., New York.

The third French edition, from which the present English edition has been taken, contains a great deal of new matter; a valuable chapter on Differential Diagnosis has been added, and the sections on Treatment have been rendered even more complete.

Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord.—By Robert Bing, Privat Docent for Neurology in the University of Basle. Translated by F. S. Arnold, B. A., M. B., B. Ch. (Oxon.). Revised by David I. Wolfstein. Cloth, $2.50. Rebman Company, 1123 Broadway, New York.

This is a practical working guide intended to present no elaborate theories or controverted points, but in the most concise manner establish facts and their clinical significance.

The Diagnosis of Nervous Diseases.—By Purves Stewart, M. A., M. D. *Third Edition*, revised and enlarged. 8vo, about 500 pages, 225 illustrations, and colored plates from original diagrams and clinical photographs. Prepaid, $4.50. E. B. Treat & Co., publishers, New York.

It is seldom in practice that diseases are met with in their fully developed or "typical" forms; more often the patients exhibit signs and symptoms common to several diseases. This volume approaches the subject of diagnosis of nervous diseases from the clinical standpoint. The author has the happy gift of giving the gist of a matter in a few pregnant sentences and of seeing clearly what is wanted, and consequently of being singularly lucid in expression.

The Blues, Splanchnic Neurasthenia, Causes and Cure.—By Albert Abrams, A. M., M. D. *Fourth Edition*, revised and enlarged. 8vo, 304 pages, illustrated, postpaid $1.50. E. B. Treat & Co., publishers, New York.

This volume directs attention to a new and heretofore undescribed variety of nerve exhaustion, which the author designates Splanchnic Neurasthenia, a form of nerve weakness, characterized by paroxysms of depression, popularly known as "the blues." His methods are described in detail and are easily executed.

OBSTETRICS—MIDWIFERY.

Operative Obstetrics, including the Surgery of the Newborn. By Edward P. Davis, M. D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Octavo volume of 483 pages, with 264 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

Dr. Davis in this volume gives all those new methods, all those operative procedures, that one, any moment, may be called upon to use. And he gives them in such a clear, straightforward, definite way that one is able to grasp the meaning and follow the technic precisely. Then, too, each procedure is illustrated with practical pictures that really illustrate. Included is a valuable section on the *Surgery of the Newborn*—a subject of the greatest importance to all. Altogether, this is an admirable work—one that may be needed *to-day*.

Operative Midwifery.—A Guide to the Difficulties and Complications of Midwifery Practice. By J. M. Munro Kerr. *Second Edition.* 8vo, 716 pages, illustrated by 299 engravings. Cloth, $6.00; sheep, $7.00. Published by Wm. Wood & Co., New York.

In considering the various pathological conditions causing dystocia and the methods of dealing with them, the author has tried, as far as possible, to indicate what is becoming more apparent every day, that the art of midwifery can no longer be considered a subdivision of medicine, but must be regarded as a branch of surgery requiring a thorough knowledge of surgical principles. In the present revision, the principal changes and additions are in the chapters on Pubiotomy, Caesarean Section, Placenta Previa, and Rupture of the Uterus.

Essentials of Obstetrics.—By William Easterly Ashton, M. D., Professor of Gynecology, Medico-Chirurgical College, Philadelphia. Revised by John A. McGlinn, M. D., Assistant Professor of Obstetrics, Medico-Chirurgical College, Philadelphia. *Seventh Revised Edition.* 12mo of 287 pages, with 109 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.00 net.

Ashton's Obstetrics is a complete book, specially adapted for the student's use, or for the busy practitioner who wishes a quick résume or concise information on any particular point in obstetric practice.

Delayed and Complicated Labor.—By Robert Jardine. 12mo, 367 pages, illustrated by 107 engravings and three colored plates. Muslin, $3.00 net. Published by Wm. Wood & Co., New York.

This little manual is the result of the author's very extensive experience in the Glasgow Maternity and Women's Hospital. It is essentially practical in method, and will undoubtedly prove useful.

Mother and Child.—By Edward P. Davis, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College; Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic; Visiting Obstetrician to the Jefferson, Philadelphia and Polyclinic Hospitals, etc. *Third Revised Edition.* 12mo, 274 pages, 31

photographs. Cloth, $1.50. J. B. Lippincott Company, publishers, Philadelphia.

In preparing this new third edition of "Mother and Child" the book has been brought up to date and numerous additions made to its text. Facts of recent interest concerning the care of the mother have been incorporated, and the latest advances in infant feeding have also been described.

OTOLOGY, OPHTHALMOLOGY AND LARYNGOLOGY.

Diseases of the Ear, Nose and Throat.—By Wendell C. Phillips, M. D., Professor of Otology in the New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye, Ear and Throat Hospital; Attending Otologist to the Post-Graduate Hospital and Babies' Wards. Handsomely illustrated with 545 halftone and line engravings, nearly all from original drawings and photographs, including many original full-page plates; some in colors. Royal octavo, 847 pages. Cloth, $6.00 net; half-morocco, $7.50 net. F. A. Davis Co., Philadelphia.

A great number of complimentary letters and criticisms indicate that Dr. Phillips did not invade a crowded field in preparing his recent book. "There is room at the top." Dr. Phillips spent many years in preparing a thoroughly digested code of instructions for the treatment of ear, nose and throat ailments. Summarizing different methods he does not hesitate to pronounce judgment as to which is best.

The Principles and Practice of Modern Otology.—By John F. Barnhill, M. D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine; and Ernest de W. Wales, B. S., M. D., Clinical Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine. *Second Edition, revised.* Octavo of 598 pages, with 305 original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50; half morocco, $7.00 net.

The authors, in writing this work, have ever kept in mind the daily needs of the physician engaged in general practice as well as the requirements of the specialist. There is a special chapter on *bacteriology of ear affections.* Among the important additions in this new edition are the functional tests accepted by the Buda-Pesth Congress of 1909, the Heath mastoid operation, and a discussion of labyrinth suppuration.

A Manual of Diseases of the Ear, Nose, and Throat.—By Henry O. Reik, M. D., Associate in Ophthalmology and Otology in the Johns Hopkins University. Assisted by A. J. Neilson Reik, M. D., Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore, Md. D. Appleton & Company, publishers. Cloth, $3.00 net.

A manual of diseases of the nose, throat and ear, written upon somewhat new lines. It has been prepared especially to meet the needs and requirements of the practicing family physician and the undergraduate medical student. It is not designed for specialists, except as an aid in class-room teaching. This book contains all that the general physician needs to know about the affections of these special sense organs and no more than he may reasonably be expected to know; all special, technical features have been omitted.

Manual of Diseases of the Ear, Nose and Throat.—By John Johnson Kyle, B. S., M. D. Professor of Otology, Rhinology and Laryngology, Indiana University School of Medicine, Indianapolis; President of the American Academy of Ophthalmology and Oto-Laryngology, and Member of the American Laryngological, Rhinological and Otological Society. *Third Edition, enlarged.* With 176 illustrations, two in colors. 12mo, xxxi+642 pages. Flexible leather, gilt edges and round corners, $3.00. (Blakiston).

This third edition has been carefully revised, its general arrangement, which has made it so popular in the past, having been continued. It is written in a clear and concise manner.

Manual of Diseases of the Eye.—For Students and General Practitioners. By Chas. H. May, M. D. *Seventh Edition, revised.* 12mo, 414 pages, with 360 original illustrations, including 71 figures on full-page plates. Cloth, $2.00 net. Published by Wm. Wood & Co., New York.

The sixth edition of this manual appeared in August, 1909, and was reprinted in August, 1910. In the seventh edition every page has been carefuly examined, many alterations have been made, and numerous paragraphs added on subjects such as Trachoma Bodies, Lagrange's Operation for Glaucoma, the use of Salvarsan ("606") in Syphilitic Ocular Affections, Injections of Tuberculin, Krönlein's Operation, etc. A new chapter on the "Ocular Manifestations of General Diseases" also appears in this edition. The volume has been kept up to date, but it has not been greatly increased in size, the original plan of presenting a book for the student and general practitioner having been adhered to.

Pathology and Bacteriology of the Eye.—By Edward Treacher Collins, F. R. C. S., Surgeon to the Royal London Ophthalmic Hospital; and M. S. Mayou, F. R. C. S., Assistant Surgeon and Pathologist Central London Ophthalmic Hospital, etc. With 240 illustrations, of which six are in colors. Octavo, xxv+558 pages. Cloth, $4.00. (Blakiston).

The authors of this book cover the subjects with a precise brevity that is in striking contrast to the learned verbosity of some other foreign monographs and have made it meet the wants of the average man interested in diseases of the eye.

Text-Book of Ophthalmology.—By Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. *Fourth English Edition.* Authorized translation from the 12th revised and enlarged German edition, with numerous additions by Alexander Duane, Surgeon, Ophthalmic and Aural Institute, New York. Octavo 989 pages, 441 illustrations in colors and black

and white. Cloth, $6.00. J. B. Lippincott Company, publishers, Philadelphia.

Besides the numerous additions and corrections which Dr. Fuchs has inserted in all parts of the book, and the number of new illustrations, there has been added a whole new part and a general introduction to the work. This valuable addition considers in an eminently lucid and conservative way the general physiology of the eye, and the pathology, etiology, symptomatology and treatment of eye diseases as a whole. This we believe will be much appreciated by both the student of ophthalmology and the general practitioner.

The Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F. R. C. S. Senior Surgeon, Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon to St. Bartholomew's Hospital, etc. With 107 illustrations and sheet of test types. *Fifteenth Edition*, revised. 12mo, xii+275 pages. Cloth, $1.50. (Blakiston).

The text is logically arranged and takes the reader from the necessary optics, clearly and concisely explained in chapter one, through every branch of the subject. The illustrations are well selected and instructive.

Handbook of Treatment for Diseases of the Eye (Ophthalmic Therapeutics).—By Dr. Curt Adam, Assistant Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a preface by Prof. von Michel, Berlin. Translated from the second German edition by William George Sym, M. D., F. R. C. S., Ed., and E. M. Lithgow, M. B., F. R. C. S., Ed. 36 illustrations. Cloth, $2.50. Rebman Company, 1123 Broadway, New York.

This work is intended to act as a guide in every day practice. It shows what drugs to use, and when to use them in the treatment of common eye diseases.

Retinoscopy. (The Shadow Test) in the Determination of Refraction at One Meter Distance with the Plane Mirror. By James Thorington, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic (1896-1909); Ophthalmologist to the Elwyn, Vineland, and New Jersey State Training Schools for Feeble-Minded Children; late Lecturer on the Anatomy, Physiology and Care of the Eyes in the Philadelphia Manual Training Schools. *Sixth Edition.* 12mo, xi+79 pages; 61 illustrations. Cloth, $1.00. (Blakiston).

The author has carefully revised this popular manual, the scope and character of which remains the same as before though much new material has been added.

Refraction and Visual Acuity.—By Kenneth Scott, M. D., C. M., F. R. C. S., (Edin.). Cloth, $1.75. Rebman Company, 1123 Broadway, New York.

The book is intended to assist the general practitioner of medicine who, more and more, feels the need of a closer acquaintance with the errors of vision and their correction.

PATHOLOGY.

A Text-Book of Pathology, with an Introductory Section on Post-Mortem Examinations and the Method of Preserving and Examining Diseased Tissues.—By Francis Delafield and Mitchell T. Prudden. *Ninth Edition.* 8vo, 1,140 pages, illustrated by 13 full-page plates in black and colors, and by 687 engravings in black and numerous colors. Cloth, $5.50; sheep, $6.50. Published by Wm. Wood & Co., New York.

The ninth edition of this classic text-book has been very completely revised, the revision in many places being so extensive as to require a complete rewriting. The book has been completely reset from new type; many of the pictures have been redrawn or reengraved, and a large number of new illustrations has been added. The greatest care has been taken with the press-work, and the various tints matched to approximate natural colors as closely as is possible with printing inks.

Manual of Pathology. Including Bacteriology, the Technic of Post-mortems and Methods of Pathologic Research.—By W. M. Late Coplin, M. D., Professor of Pathology, Jefferson Medical College; Pathologist to and Director of the Clinical Laboratories in Jefferson Medical College Hospital; Pathologist to the Philadelphia Hospital and to the Friend's Asylum for the Insane, etc. *Fifth Edition.* Octavo. xxv+1,139 pages. With 12 plates (11 in colors) and 612 text illustrations. Enlarged over fourth edition by 145 pages of text and 117 illustrations. Cloth, $4.50. (Blakiston).

This book does something which many other books upon pathology do not do, namely, it has been written in such form as to be of value to the practitioner as well as to the student.

A Manual of Pathology.—By Guthrie McConnell, M. D., Professor of Pathology and Bacteriology, Temple University, Medical Dept., Philadelphia. *Second Revised Edition.* 12mo of 531 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, $2.50 net.

To the chapter on tumors a number of additions have been made, including Adami's classification. The names of many parasites have been made to conform with the newer nomenclature. The subject of malaria has been revised, the matter dealing with trypanosomes entirely rewritten, and a discussion of the *Leishmanii donovani* added. The chapter on the thyroid gland has also been rewritten.

Aids to Pathology (Students' Aids Series).—By H. Campbell. *Second Edition.* 16mo, 236 pages. Flexible cloth, $1.25. Published by Wm. Wood & Co., New York.

Presents as briefly as possible the known facts of Pathology. There is no pretense to a complete or exhaustive treatment of the subject. The student must regard the description of each disease as a framework into which he can fit all the information acquired from

the post-mortem room, the museum and the laboratory.

Pathological Technic. Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School; and J. H. Wright, M. D., Director of the Pathological Laboratory, Massachusetts General Hospital. *Fifth Revised Edition.* Octavo of 507 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $3.00.

A partial list of the new matter in this edition includes Smith's staining method for encapsulated bacteria; the antiformin method for tubercle bacilli; Musgrave's and Clegg's method for amebae; Wright's method for staining myelin sheaths in frozen sections; Ghoreyeb's method for spirochetes; Alzheimer's method for cytologic examination of cerebrospinal fluid; Giemsa's new method for protozoa and bacteria in sections, and the Wassermann-Noguchi tests for syphilis.

Studies in Cardiac Pathology.—By George W. Norris, M. D., Associate in Medicine at the University of Pennsylvania. Large octavo of 233 pages, with 85 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.00 net.

The wide interest being manifested in heart lesions makes this book particularly opportune. Each illustration is accompanied by a detailed description, besides ample supplementary letter press. Throughout the book considerable matter of a diagnostic and therapeutic nature has been interwoven.

PEDIATRICS.

The Diseases of Infancy and Childhood.—By L. Emmett Holt, M. D., Professor of Diseases of Children, College of Physicians and Surgeons, New York. Assisted by John Howland, M. D., Professor of Diseases of Children, Washington University, St. Louis. D. Appleton & Company, publishers. *Sixth Edition*, completely revised, reset, and printed from new plates. 248 illustrations, including 8 colored plates. Cloth, $6.00 net.

Dr. Holt has prepared practically a new book. Every article has been revised, many of them entirely rewritten. A vast amount of new material has been added. The latest word is given on every subject. In his preparation of the new edition Dr. Holt has had associated with him Dr. John Howland, who was for many years his assistant and who will hereafter be connected with the work as joint author.

Text-Book of the Diseases of Children.—By Henry D. Chapin and Godfrey R. Pisek. *Second Edition.* 8vo, 656 pages, profusely illustrated by engravings and by 11 colored plates. Cloth, $4.50 net. Published by Wm. Wood & Co., New York.

The book is illustrated almost entirely with original photographs taken by the authors. The revision brings the book right down to date, treating such topics as Cerebrospinal Meningitis, Infantile Paralysis, and the treatment of the special diseases by vaccines, especially the autogenous preparations. A table of dosage for the use of the vaccines has been prepared.

The Medical Diseases of Children.—By Reginald Miller. 8vo, 555 pages. Printed on coated paper. Illustrated by 97 engravings. Cloth, $4.00 net. Published by Wm. Wood & Co., New York.

This book is of great teaching value, the contents, and the order, length and phraseology of its articles having been arranged with this end in view. The needs of the practitioner as well as the student have been fully considered. Many good photographic illustrations add to the usefulness of the book. Up-to-date, practical and thoroughly scientific.

The Accessory Sinuses of the Nose in Children.—102 specimens reproduced in natural size from photographs. By Prof. Dr. A. Onodi, with a preface by Prof. Dr. W. Waldeyer. Translated by Carl Prousnitz. Quarto volume, 123 pages, with 102 full-size plates. Muslin, $7.00 net. Published by Wm. Wood & Co., New York.

The object of this work has been to study the development of the air sinuses from their first appearance until after the beginning of puberty. To this end a number of sections have been cut through the skulls of infants and children of different ages. From a practical point of view the illustrations and measurements given in this book have considerable importance, particularly for the diagnosis and operative treatment of the accessory sinuses in children, since they enable the surgeon to select and follow up the best routes of access to such cavities.

The Deaf Child, A Manual for Teachers and School Doctors.—By James Kerr Love. 12mo, illustrated by engravings and with a large folding chart. Cloth, $1.50 net. Published by Wm. Wood & Co., New York.

This book is an attempt to introduce the scientific method in the study of Deafness in Children, and lays down a clinical basis for the application of educational methods; the first published attempt at this.

Diseases of Infancy and Childhood. — By Louis Fischer, M. D., Physician to the Willard Parker and Sydenham Hospitals, New York. *Fourth Edition.* 979 royal octavo pages; 310 illustrations, some in colors and 28 full-page half-tone and color plates. Price, cloth, net $6.50; half-morocco, net $8.00. F. A. Davis Co., Philadelphia.

Complete in every detail, there is no redundancy, no striving for effects in Fischer's book and it well shows the evidence of preparedness on the author's part. It is a strong book, one on which the practitioner can rely not only in season but in every season, strong in diagnosis, strong in infant feeding and complete in treatment.

Modern Diagnosis and Treatment of Children. —By Herman B. Sheffield, M. D. Handsomely

illustrated with 207 half-tone text engravings, some in colors and nearly all original, reproduced from photographs of actual cases. Royal octavo, 619 pages. Extra cloth, $4.50 net; half-morocco, $6.00 net. F. A. Davis Co., Philadelphia.

A strong book in which the author's views as to Diagnosis and Treatment are made very clear to the reader. Designed to provide a quick reference in the practical phases of Pediatrics without the usual duplications and panorama of conflicting opinions. The physician who consults Sheffield's book will get right down to plain, practical facts at once.

A Manual of Diseases of Infants and Children.—By John Ruhrah, M. D., Clinical Professor of Diseases of Children, College of Physician and Surgeons, Baltimore. *Third Revised Edition.* 12mo volume of 534 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, $2.50 net.

Dr. Ruhrah has revised his work most thoroughly, adding much new matter and practically rewriting many articles, especially those on examination, food intoxications, bronchopneumonia, examinations of heart and nervous system, and the section on therapeutics.

SURGERY.

Operative Surgery. A Manual for Practitioners and Students. By John Fairbairn Binnie, A. M., C. M. (Aberdeen); Member American Surgical Association, Membre de la Societe Internationale de Chirurgie, etc. *Fifth Edition* in one handsome octavo volume. Thoroughly revised and enlarged. 1,365 illustrations, some of which are printed in colors, over 100 being new to this edition. Cloth, $7.00. (Blakiston).

This new edition of Binnie is for the first time presented in a one volume octavo of about 1,200 pages. The present printing contains 806 illustrations more than the first edition. It is one of the few books on surgery which has had a large sale abroad, where it is probably used among surgeons almost to the extent it is in this country. It is not burdened with the classical procedures, but contains clearly and concisely the latest and most practical operations for the relief of various surgical conditions.

Text-Book of Operative Surgery.—Two volumes. Sold only in sets by subscription. By Dr. Theodor Kocher, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. *Third English Edition*, authorized translation from the fifth German edition, by Harold J. Stiles, M. B., F. R. C. S., Edin., Surgeon to the Chalmers Hospital, Edinburgh; Surgeon to the Royal Edinburgh Hospital for Sick Children; Lecturer on Applied Anatomy, University of Edinburgh, and C. Balfour Paul, M. B., F. R. C. S., Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. With 415 illustrations. Vol. I, cloth, xxiv+382 pp.; Vol. II, cloth, xiii+341 pp., index. Ill., 8°, $12.00; half morocco, $16.00. Published by The MacMillan Co., New York.

Urgent Surgery.—By Felix Lejars. Translated from the French by William S. Dickie. *Second English Edition*, 2 vols. Vol. I, 617 pages, illustrated by 633 engravings and 10 plates. Muslin, the set, $14.00 net; half morocco, $16.00 net. Published by Wm. Wood & Co., New York.

Urgent surgery does not mean merely the surgery of injuries; at the present day the number of clinical conditions demanding immediate surgical action is very great.

Manual of Surgery—For Students and Practitioners.—By Wm. Rose and Albert Carless. *Eighth Revised Edition.* 8vo, 1,415 pages, illustrated by 581 engravings and 12 full-page colored plates. Cloth, $6.00; sheep, $7.00 net. Published by Wm. Wood & Co., New York.

In the present edition the work has been thoroughly revised and brought up to date. Some sections have been rewritten and others remodelled and rearranged so as to present them in more orderly fashion. Short introductions to several sections have been added, dealing with surgical anatomy and methods of examination. Typical blood counts and results of test-meals in various conditions have been introduced.

American Practice of Surgery.—By numerous writers, edited by Joseph Decatur Bryant and Albert Henry Buck. The set of eight volumes sold by subscription. Cloth, $56; sheep, $64; half morocco, $72. Published by Wm. Wood & Co., New York.

Vol. VIII, the concluding volume of the series, concludes the consideration of regional surgery, contains a very able article on the Law in its relation to the practice of surgery, by Dr. Stephen Smith, a section on administrative surgical work, an appendix on blood-pressure, and the General Index to the set. Bryant & Buck's "Surgery" has received a most flattering reception from the profession of this country.

A Text-Book of Surgery.—By Edward Milton Foote, M. D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University. D. Appleton & Company, publishers. *Third Edition*, 421 illustrations from original drawings and photographs. Cloth, $5.00.

The third revised edition of Dr. Foote's work has just been published. This work treats of every-day operations in surgery—those manifold lesser accidents, diseases and problems which form the bulk of the surgical work of the general practitioner.

A Manual of Surgery. For Students and Physicians.—By Francis T. Stewart, M. D., Professor of Clinical Surgery, Jefferson Medical College; Surgeon to the Germantown Hospital; Out-Patient Surgeon to the Pennsylvania Hospital. *Second Edition.* 553 illustrations, 21 of which are printed in colors. Octavo, xi+682 pages; 49 more illustrations than in first edition. Cloth, $4.00. (Blakiston).

In this edition the chapters on Diagnosis and Treatment have been entirely revised and many additions made to the volume to keep it abreast of surgical progress. It has been considerably augmented, certain of the older methods have

been discarded and the classification has been simplified, much care having been exercised so that the book might continue to meet the requirements of students in under-graduate work.

Surgical Diagnosis.—By Alexander Bryan Johnson, M. D., Professor of Clinical Surgery in the Columbia University Medical College. D. Appleton & Company, publishers. With 784 illustrations. Three volumes, cloth, per vol., $6.00 net.

The third and final volume of Dr. Johnson's monumental work has recently been issued. The author sticks closely to his subject of surgical diagnosis. Nothing is said as to treatment, while operative procedures are neglected, diagnostic ones, such as esophagoscopy, cystoscopy, ureteral catherterizations, etc., are considered in full. The book is written in simple, straightforward English. As large as many systems of surgery, it is certainly the most extensive work on surgical diagnosis in English, if not in any language. The illustrations, and especially the radiographs, deserve special commendation.

An Introduction to Surgery.—By Rutherford Morison. Small 4to, 162 pages, 146 engravings and 5 colored plates. $2.50. Published by Wm. Wood & Co., New York.

The chief object of this book is to emphasize the importance of the general principles governing Surgery. The sections of the work are on inflammation; bacteria; ulcers, gangrene; syphilis; tubercle and malignant disease; hemophilia; wounds; abdominal and pelvic viscera; indications for operation; and on X-rays. The style is clear-cut and terse, and very lucid.

Modern Surgical Technique—In Its Relation to Operations and Wound Treatment.—By C. Yelverton Pearson. *Second Edition.* $4.00. Published by Wm. Wood & Co., New York.

In the second edition the book has been carefully revised, and considerable new matter has been introduced. No efforts have been spared to make the work representative of the surgical technique of the present day.

Clinical Lectures on the Acute Abdomen.—By William Henry Battle, F. R. C. S. 8vo, 117 pages, illustrated. $1.50 net. Published by Wm. Wood & Co., New York.

Discusses the influence of the appendix vermiformis and its diseases, the treatment of acute appendicitis with peritonitis, pathological perforations of the digestive tract, acute intestinal obstruction, diseases of the female generative organs, some of the more rare causes of the acute abdomen, some neuroses which may cause symptoms of urgency.

Diseases of the Anus, Rectum, and Sigmoid.—By Samuel T. Earle, M. D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College; Surgeon in Charge of Rectal Diseases at St. Joseph's Hospital, the Hebrew Hospital, and the Hospital for Women. Octavo, 476 pages, 152 illustrations. Cloth, $5.00. J. B. Lippincott Company, publishers, Philadelphia.

This work was written to especially meet the requirements of the general practitioner and the medical student; great pains have been taken to make the text as brief as is consistent with a clear and comprehensive description of the subject-matter. The author has illustrated the text by plates (about one hundred and fifty) wherever he thought it would add to a clearer understanding of the subject treated.

The Surgery of the Diseases of the Appendix Vermiformis, and Their Complications.—By William Henry Battle, F. R. C. S., and Eldred M. Corner, M. A., M. B., M. C., F. R. C. S. *Second Edition.* 8vo, 306 pages, 98 engravings. $3.00 net. Published by Wm. Wood & Co., New York.

This book is written impartially from the standpoint of the practical surgeon. The authors have summarized the views held by the physician and the pathologist, and tried to place the surgeon's view before the profession in such a way that it shall be of practical value. Appendix; Acute Abdominal Disease; Carcinoma; Tubercle, and other diseases of the Appendix, Life Insurance, etc.

Disease in Bone.—Disease in Bone and Its Detection by the X-Rays. By Edward W. H. Shenton, M. R. C. S., Eng., L. R. C. P., Lond., Sen. Surg. Radiographer, Guy's Hospital. With illustrations. Published by The MacMillan Co., New York. Ill., 8°, $1.60z. Cloth, xii+72 pp., by mail, $1.68.

This work is a record of facts which radiographic experience, extending over fourteen years, has caused the author to regard as fundamental. The book will be most helpful to students of modern methods in the use of the X-Ray as a clinical method of examination. The numerous illustrations greatly enhance the value of the book, since they amply explain the text and are photographs of actual cases which came under the author's observation.

The Treatment of Fractures. With Notes Upon a Few Common Dislocations.—By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. *Seventh Edition, Revised and Enlarged.* Octavo volume of 708 pages, with 990 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Polished buckram, $6.00 net; half morocco, $7.50 net.

Into this new edition, enlarged by 100 pages, Dr. Scudder has introduced a chapter on the operative treatment of fractures, and other new material specially in connection with fractures of the skull, spine and neck of the femur; old fractures of the nasal bones and lower end of the tibia; excision of the shoulder-joint; damage to the musculospiral nerve, and to the lower tibial epiphysis. Over 125 additional illustrations have been included, and many of the old ones replaced, the book now containing 994 handsome illustrations.

A Handbook of Intestinal Surgery.—By Leonard A. Bidwell. *Second Edition.* 8vo, 229 pages, profusely illustrated, $2.25. Published by Wm. Wood & Co., New York.

This little volume aims at giving such a precise description of the commoner intestinal su-

tures that an inexperienced surgeon may readily practice the various methods on dead intestine before performing an anastomosis on the living subject. Many parts of this book had to be entirely rewritten in order to bring it up to date. Much fresh matter has been introduced and several illustrations added.

Minor and Emergency Surgery.—By Walter T. Dannreuther, M. D., Surgeon to St. Elizabeth's Hospital and to St. Bartholomew's Clinic, New York City. 12mo volume of 226 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.25 net.

This work will be of great service to every worker in this field. Dr. Dannreuther emphasizes just those points most necessary in emergency work—points usually omitted from the large books because considered elementary; yet they are points of the utmost importance. Throughout the book, too, there are numerous hints and suggestions which will be of great value to all.

Orthopedic Surgery.—By Edward H. Bradford and Robert W. Lovett. 8vo, 418 pages, illustrated by 362 engravings. Cloth, $3.50 net. Published by Wm. Wood & Co., New York.

The increasing interest in the surgical treatment of the class of cases which are grouped under the term of Orthopedic Surgery has given rise to a demand for a condensed hand-book for the use of students and practitioners.

Plastic and Cosmetic Surgery.—By Frederick Strange Kolle, M. D. D. Appleton & Co., publishers. With numerous illustrations. Cloth, $5.00 net.

Dr. Kolle's book is a practical treatise in the advancement of plastic surgery. Much space is given to skin grafting, the treatment of secondary wounds, the shaping and disposition of flaps and their care. Electrolysis as applied to dermatology is explained and full information is given as to the construction and scientific use of the apparatus involved. The treatment of scars, tattooing, and the removal of skin imperfections, such as nevi, superfluous hair, lentigo, etc., are thoroughly considered. The illustrations are practical and admirably supplement the text.

A Synopsis of Surgery.—By Ernest W. Hey Groves. *Third Edition.* 12mo, 593 pages, illustrated. Muslin, $3.25 net. Published by Wm. Wood & Co., New York.

This book is an epitome of the salient facts in surgical practice, so arranged as to be most easily and rapidly referred to or revised. This synopsis may, by its methodical arrangement, prove of assistance to the busy practitioner by presenting the diagnosis and treatment of surgical conditions in a concise manner.

Joint Tuberculosis.—By Leonard W. Ely. 8vo, 255 pages, profusely illustrated. Cloth, $2.50. Published by Wm. Wood & Co., New York.

Dr. Ely has written a book which because of his familiarity with the literature and his large laboratory experience, together with the great amount of material submitted by specialists in New York, Boston and other centers, may be considered thoroughly reliable, scientific and up-to-date. Not the least noteworthy features of the book are the author's facility of expression and pleasing diction.

The Principles and Practice of Bandaging.—By Gwilym G. Davis, M. D., M. R. C. S., Professor of Orthopedic Surgery, University of Pennsylvania; Surgeon to the Out-Patient Departments of the Episcopal and Children's Hospitals, etc. *Third Edition Revised.* 12mo, xiii +128 pages. Cloth, $1.00. (Blakiston).

The purpose of this book is to furnish students with a concise compend illustrating the principles of bandaging. Simplicity is the keynote, not only in the technique which the author has chosen, but in the language employed in the way of description. There is an abundance of illustrations, which add greatly to the understanding of the text.

MISCELLANEOUS TOPICS.

The Human Atmosphere, or the Aura Made Visible by the Aid of Chemical Screens.—By Walter J. Kilner, B. A., M. B., Cantab. Price, $10.00 net, including the necessary screens in a box and four case books. Book separate, $4.00; screens separate, $6.00; case books separate, $1.50. Rebman Company, 1123 Broadway, New York.

The author of this book shows how, by looking through certain screens, which he has invented, it is possible to see the Human Atmosphere—or in other words a vapor-like emanation which surrounds the human body. It is different in size in the two sexes, and its shape and nature are claimed to be altered in various nervous diseases, which should make it of value in differential diagnosis. It is said also to show the areas, in which there is localized pain, and the slides are also useful to aid in the diagnosis of early pregnancy. After an extended series of observations (over 250) the author and the publishers believe that anyone, with normal eyes can, by accurately following the instructions given in the book, not only perceive the atmosphere, but also ascertain many points of interest in relation to disease.

Alcoholism and Drug Narcotism (the Modern Treatment of).—By C. A. McBride, M. D., C. M., L. R. C. P., etc. Cloth, $2.00. Rebman Company, 1123 Broadway, New York.

This extremely valuable book is written by a man who has successfully treated alcoholic and drug victims for more than 30 years. The book is the fruit of ripe experience which is related in plain language and an attempt is made to impart all that the author has learned by his research.

Hospital Management.—A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work. By Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse;" "Primary Studies for Nurses;" "Clinical Studies for Nurses." 12mo of 488 pages, illustrated. Phila-

delphia and London: W. B. Saunders Company, 1911. Cloth, $3.00 net.

This is a work with *practical* as its keynote. Each chapter has been written by one specially fitted to write upon that particular phase of the subject; and Miss Aikens, herself a contributor, has shown great editorial ability in the arrangement of the several subjects treated. Every phase of hospital management is taken up and illustrated most profusely. As a book on hospital economics it has no equal.

Handbook to Medical Europe.—A Ready Reference Book to the Universities, Hospitals, Clinics, Laboratories and General Medical Work of the Principal Cities of Europe. By James Henry Honan, M. D., Rush Medical College (University of Chicago); Imperial Frederich Wilhelm University of Berlin, M. D., Special Lecturer on Cardio-Vascular Disease in the University of Georgia; Honorary President and Formerly Active President of the Anglo-American Medical Association in Berlin, etc. 12mo. Limp cloth, round corners, $1.50. (Blakiston).

This is an attempt to furnish the medical traveler with a guide book to medical matters throughout Great Britain and the Continent. The author has lived abroad for many years, having been closely associated with many American and English students visiting Europe for post-graduate work. He is, therefore, acquainted with the difficulties of choosing and arranging for the work in the various hospitals, clinics and laboratories and has endeavored to give information which will give the student an opportunity of learning in advance what he has hitherto had to gain by experience.

The Mechanism of Life.—By Dr. Stephane Leduc, Paris. Only authorized translation by W. Deane Butcher, M. R. C. S., London. Numerous illustrations. Cloth, $2.00. Rebman Company, 1123 Broadway, New York.

The most enthralling subject to doctor, biologist, clergyman or any thinker in the world in general is "What is Life?" Leduc has found a way to satisfy them all, and he gives his reasons and deductions. The photographs are beautiful and the work is most fascinating, whether you agree with the author or not.

Quinquennium of Medicine and Surgery.—Embracing the advances in Medical and Surgical Practice, Methods, Knowledge and Theories, 1906-1911. Edited by J. W. Ballantyre. Royal 8vo, 411 pages, double column, illustrated by many plates and engravings in the text. Cloth, $5.00; sheep, $6.00; half-morocco, $7.00 net. Published by Wm. Wood & Co., New York.

An epitome, consisting of 1,252 separate articles, of the advances made in the period in question. It should prove well-nigh indispensable to the practitioner desirous of keeping fully up with the times. The book is arranged alphabetically, in double-column, royal octavo pages, and liberally illustrated. All the more important subjects have been written by specialists, and so far as could be discovered, every new medical term which has originated during the past five years has been included.

State Board Questions and Answers.—By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. *Second Edition Revised.* Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4.00 net; half morocco, $5.50 net.

Dr. Goepp's book is extremely valuable where information is wanted *quickly*. For instance, you want to know the technic of the Wassermann-Noguchi reactions, or of the "606" treatment of syphilis. You consult the complete index and in an instant you have before you definite, concise descriptions of these methods. And so it is with every subject. This second edition is strictly up to date.

Collected Papers.—By the Staff of St. Mary's Hospital, (Mayo Clinic), Rochester, Minnesota, 1905-1909: Octavo of 668 pages, illustrated. 1910: Octavo of 633 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume, cloth, $5.50 net.

These papers by W. J. and C. H. Mayo and their associates at St. Mary's Hospital, Rochester, Minn., are of exceptional value. All the papers are on subjects being discussed every day in every medical circle. All are on conditions with which you meet every day. Practically every phase of every subject considered is taken up and most thoroughly discussed. The plan is to publish each year's papers in book form. This certainly will be appreciated by the profession.

A Short Handbook of Cosmetics.—By Dr. Max Joseph, Berlin. Authorized English translation, revised from the third German edition. 12mo, 151 recipes, cloth, prepaid, $1.00. E. B. Treat & Co., publishers, New York.

In this book the author takes the view that the subject of cosmetics has been too long neglected by the medical profession and on this account has, unfortunately, passed into the hands of unqualified persons. In order that practitioners need not listen to the quacks and beauty specialists to become acquainted with the cosmetic art, he has supplied this guide to a fuller and more scientific knowledge of the skin and hair. Many formulas are given and the contents include chapters on cosmetics of the skin, such as baths, soap, fats, etc., and cosmetics of the hair, nails and mouth.

The 1911 International Medical Annual.—A Year Book of Treatment and Practitioner's Index, 29th year of issue, by a staff of 37 editors. Large octavo, over 700 pages, fully illustrated by plain, colored and stereo plates; cloth, prepaid, $3.50. E. B. Treat & Co., publishers, New York.

A review in one volume of the year's medical literature supplemented by papers of special interest. It saves many times its cost not only in convenience but cost of journals and time necessary to read them, and will enable one to review in a few moments the very latest in medicine. In no other work of its size at such a moderate cost can be found so much valuable material in a form ready for assimilation.

"Read the Annual and you read all the medical books and journals of the world."

TREATMENT.

Hygienic and Dietetic Treatment of Arterial Tension.[1]—Dr. Arthur R. Elliott of Chicago, at the last meeting of the Mississippi Valley Medical Association, said that we must not lose sight of the fact that high blood pressure was a symptom, not a disease. In the present state of knowledge hypertension appeared to be due to toxemia, certain secondary organic changes, arterial fibrosis, and cardiac hypertrophy, following from overfunctioning of the cardiovascular apparatus produced by the circulatory toxins. The existence of arterial hypertension was not necessarily an indication for treatment. It was difficult often to decide whether we should attempt to lower blood pressure at all in any given case. A blood pressure of 200 mm. or higher might be essential to the maintenance of circulatory efficiency. This was true of most cases of chronic nephritis. Again, the symptoms ordinarily attributed to high blood pressure might be more dependent on disturbance of heart function than on elevated blood pressure *per se*. Even in matters of diet and hygiene we might by over-strictness impair the patient's strength and reduce his circulatory efficiency. This symptom was met with alike among the rich and poor, the thin and the fat. Owing to variation in type and circumstances it was difficult to lay down any absolute rules to govern diet and hygiene that would be appropriate for any major group of cases. Preliminary investigation should be directed to put the patient in as good general condition as possible, and especially to eliminate toxic factors. Tobacco should be interdicted in severe cases and cases with bad hearts, and strictly controlled in all. Exercise and activities should be regulated on the physiological level, using methods suggested by the work of Gräupner and Lowsley to estimate the individual capacity for exercise so as to keep within the physiological limit and so avoid overstrain to the heart and brain circulation. Such rest should be enforced and periodical "bed weeks" advised in cases with weak hearts. The diet should be individualized according to age, activity, and the state of the heart. Corpulent individuals should be reduced, and thin patients gain somewhat in weight. Reduction in total bulk of food was desirable in the former types. Limitation of protein within the physiological ratio of 90 gms. should be enforced in all cases, and in severe cases, especially when renal in type. The quota of protein should fall to fifty grams, or even lower. Hypertension waves or crises should be combated by rest, starvation, or a low diet of milk and cereals, or bread and fruit with limitation of fluids. Fluids should be restricted in ratio to the amount of urine secreted. The greatest parsimony was practiced in cases with small urinary flow. Salt restriction was advisable in all cases, and salt withdrawal in every case showing edema, however slight. As these patients were very nervous and impressionable, they should be habitually encouraged and should not be informed of the fluctuations in their blood pressure.

[1] *Med. Record*, p. 1150, Dec. 2, 1911.

Gastric Ulcer.—In hemorrhage (*Dominion Med. Monthly*) from gastric ulcers, Carnot recommends the following:

Gelatine	2.0 gm.
Acid salicylici	0.5 gm.
Aquae coctae	100.0 gm.

Give of this mixture one tablespoonful two or three times a day in severe hemorrhages, a dose every hour.

Internal Hemorrhage.—Heddaeus says gelatine is the best hemostatic in severe hemorrhages, where the source of bleeding cannot be reached. The smallest quantity that should be used, he states, is 30 grn. L. Grüneberg reports prompt action from gelatine injections in the hemorrhage diathesis of the new-born. For intestinal hemorrhage due to typhoid, K. Witthauer has obtained brilliant results from gelatine injections.—*Dominion Med. Monthly.*

Furunculous.—Bowen advises to keep the skin, as far as possible, sterile by washing with warm water and soap night and morning; then, when dried, applying a saturated solution of boric acid in water. The skin is then allowed to dry without wiping, and the individual furuncles dressed with the following ointment, spread on cotton or linen: Boric acid, precipitated sulphur, of each one drachm; carbolized petrolatum, one ounce.—*Dominion Med. Monthly.*

Buttermilk Feeding.—This practice (*Dominion Med. Monthly*) began 150 years ago with the peasants of Holland feeding their infants buttermilk. Two physicians of that country brought it before the medical profession in 1902 and 1905, respectively. German physicians began using it in 1901. Babinsky recommends its use in acute dyspepsia after the starvation treatment and chronic diarrhea. Holt advises it in intestinal indigestion and diarrheal disease. He directs a quart be cooked for twenty minutes, with two tablespoonfuls of barley flour and four ounces of water, and then adds two teaspoonfuls of cane sugar. Instead of barley, wheat flour is used in Germany.

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